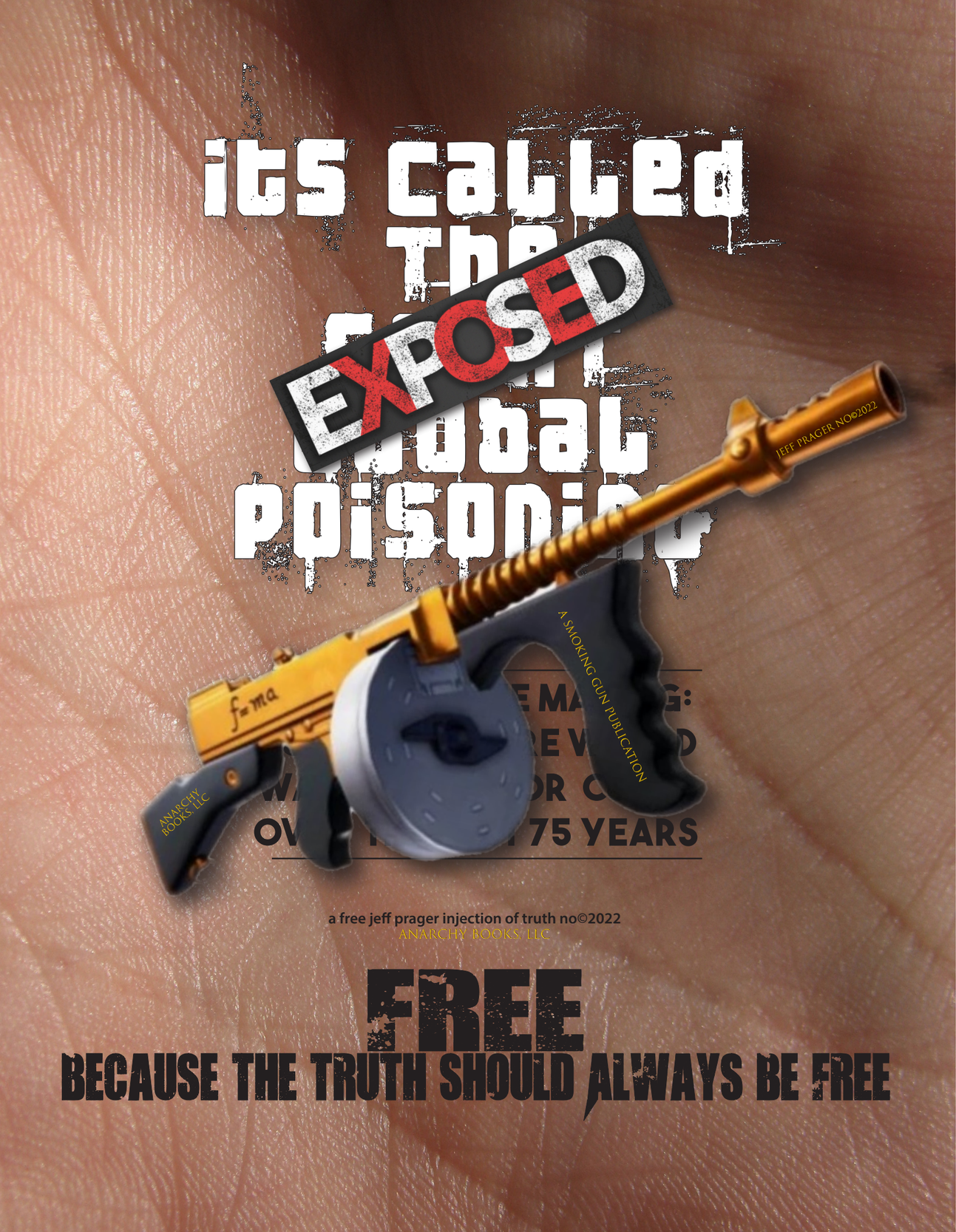
THE GREAT GLOBAL POISONING

DECADES IN THE MAKING: HOW THE ENTIRE WORLD WAS PRIMED FOR THE CoV-2 CULLING DURING THE LAST 120 YEARS

a free jeff prager injection of truth no©February 28, 2022

A SMOKING GUN PUBLICATION



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INTENT

The publisher(s) and authors(s) warrant that the information presented in this report is an accurate reflection of information presented in published, peer reviewed journals gleaned from public news sites and US government web sites on the internet including mainstream media content. The intent of this report is to 1) provide an honest explanation for the CoV-2 vaccine adverse events that incorporates currently public information not necessarily included in official US government reports, not included in any mainstream media sources whether internet, video or written formats but found in health department documents maintained by foreign countries and 2) focus public attention on circumstances that strongly suggest there has been wrong doing by private individuals, public officials and national and international organizations involved in the dissemination of propaganda, malfeasance, violation of human rights, failure to provide informed consent and experimenting on humanity in violation of all ten Nuremberg Codes recognized and agreed to by over 100 countries including the USA. This has led to the misuse of government resources, specifi- cally our taxes, our money and 3) provide a foundation of research for future investigation. Information presented in this report documents that the federal institutions, government institutions and corporate and private institutions responsible for investigating these events are currently involved in efforts to suppress the facts. Hence, this information is being made public in the hope that unknown officials with appropriate level of authority can re-institute the appropriate investigation, or that private investigative resources can further substantiate the claims made herein.

This eBook is dedicated to my daughter Camy, without whom I couldn't have accomplished very much at all.
It's also dedicated to the millions of people who've been systemically murdered "by protocol"
and to the billions whose future diseases and deaths are likely imminent.

KLAUS SCHWABS GREAT RESET

"... is a vision for transferring the world into a totalitarian and authoritarian surveillance slave-state manipulated by technocrats to manage traumatized populations, to shift wealth upward, and to serve the personal interests of elite billionaire oligarchs."

It's not easy to write about and properly describe the purposeful, flagrant and unrecognized-by-the-population poisoning of all of humanity for a little over 120 years now. I'm not talking about a little here, a little there, no, not at all. I'm talking about a massive, full-spectrum poisoning of the entire human population of the planet on an unprecedented scale which I can prove beyond any reasonable doubt with published, unchallenged, peer reviewed reports, some 20 and 30 years old, some older, some newer, along with other reliable documents.

But what if I told you a story so inhuman and so unbelievable that you would automatically suspect it was mere conjecture, wild speculation, and your conscience would have difficulty accepting it as the truth? So much so that you would immediately reject it as what we've come to know as those words most foul, it's a "conspiracy theory" you'd say. Yet along the way, as this story unfolds, I provide the actual published peer review, reliable, well sourced graphs and charts and referenced mainstream documentation proving crimes so cruel our imaginations are incapable of envisioning savagery that brutal. What would you think then?

I'll do that here but this is a difficult task considering the harsh reality is that Pinky and The Brain really are trying to use a QR Code to take over the world. While the most substantial portion of the Great Global Poisoning regards our health, or lack thereof and more specifically our alleged lifespan or what we call "old-age" diseases and disabilities, it also firstly includes a sophisticated poisoning of our minds, our intellect, our IQ, our understanding of the way the world actually works. This began first and in earnest. Our public educational institutions were constructed by and the curriculum designed by people intent on purposely dumbing down America and of course the world as well. I can prove this. And the same families, the same alleged upper crust of society, are still at work today perpetrating a Great Reset using a CoV-2 PCR Test Scam as the pretext to implement a Social Credit System and 24/7 total surveillance.

Worse, it's poisoned how we view ourselves and each other and how we conduct our lives, set goals, determine career paths and compete with one another throughout our lives to get just a little bit more. If you believe we're free you somehow missed the fraudulent and freakish 9-5 paradigm. The only reason we work 9-5 is because the same gross elites were embarrassed by working us AND our children 12-14 hours a day in the early 1900s and they needed a new and effective employment plan. When women initially won equal rights in the workplace it simply allowed the same insane families to employ the other half of the population and double the income tax theft.

The Great Poisoning poisoned everything we think of as humanity; people, animals, all living species including food bearing plants, flowers and trees and the water, air and soil itself. It poisoned our natural empathy, our creativity, our curiosity and our ability to truly enjoy being alive, it destroyed our innate desire to love others. It destroyed our ability to envision and pursue our true desires.

This is an immense, prodigious and comprehensive poisoning and the enormous size alone and the inherent complexity make this a difficult story to tell without using 1000s of pages so we'll have to do this with a lot less. I ask that you don't jump to conclusions and read each

chapter with my explanations supported by the published peer review, US government peer review, graphs, charts and documents I've chosen to explain this very complex, compartmentalized project. The sole reason behind the current frauds, and there are many frauds, is that the global system—Swiss (Geneva) and Global Central Bankers, Global Governments and the western banking system—have reached their debt limit and the party is over.

In 2019 the World Bank reported that the global financial system contained 500 billion dollars, half a trillion dollars, derived from narcotics sales, human trafficking and other crimes and that the system simply could not function without that cash.

If we continue to use certain limited resources like Coltan and the Rare Earth Metals at the current rate we'll deplete these resources which the elite consider theirs. They're tech chemicals, tech metals and tech-necessary. Robotics, Artificial Intelligence and the Great Reset depend upon this growing technology and part of the Great Global Poisoning, a large part of the poisoning comes to us silently because 5G, based on the peer review, is extremely harmful to not just the human body but to ALL living things including plants, insects, our pets, bacteria, etc. Yet without these chemicals and metals not only will the Great Reset fail, the elite plans for space exploration and terraforming would also fail. Maintaining stocks of limited and highly valuable resources is necessary and a part of the need fulfilled by the Great Reset.

You're going to read first hand accounts about the deliberate dumbing down of America beginning in the 1920s when the Carnegies, the Morgans, IBM and others developed the US Public School System, a de-education system designed for our children not only to fail but to disdain reading, research and investigation and stifle critical thinking, curiosity and creativity. It was designed solely to teach our children to obey authority. This deliberate dumbing down of America, visible on the nightly news and in the streets of America, is where it all began and how it's allowed Pinky & The Brain to succeed.

We live under a system of pseudo-slavery where we must compete with one another for what are ultimately limited resources. In our system not everyone can own a multi-million dollar mansion but not everyone can even own a home and not everyone can rent an apartment and thus some will always be homeless because homelessness is systemic. It's what keeps YOU working and making a profit for those above you and those above them and so on.

Beyond poisoning our minds, and I may get opposition from this statement which is perfectly fine, but within the published, peer reviewed research community—scientists, medical professionals and attorneys who publish—it's been known for more than 30 years that vaccines cause numerous neurological disorders on the Autism Spectrum and the US National Vaccine Injury Compensation Program has paid for damages from these injuries for several decades. They have even compensated for cases of autism. In 39 of 83 cases, or 47% of the cases of vaccine injury reviewed by Pace Environmental Law review, there is confirmation of autism or autism spectrum disorder (See page 24, The History Of The Global Vaccination Program In 1000 Peer Reviewed Reports And Studies, 1,053 pages, Jeff Prager, 2016).

Imagine if we manufactured billions of tons of toxic chemicals and dispersed them homogeneously across the planet and they infiltrated our food, our water and the air we breathe. In 1900 house dust was composed of primarily dead skin cells. Today house dust, the dust in schools, day care and the workplace is composed of 1000s of chemicals, many as yet untested in the human body and based on the peer review, children and infants spending much of their time on the floor or who are by size substantially closer to the floor, inhale or ingest twelve times the amount of these toxins as adults. As you can see the poisoning begins at birth with the first vaccine and each successive vaccine, with toxic infant formula and additive-laced "baby foods" that I wouldn't feed to my cat and with 1000s of chemicals introduced into the human body by food, air and water and crawling on the floor.

Tap water has higher standards than bottled water but both are toxic to the human body. You have to understand toxicity. A glass of tap water isn't going to harm you. A glass or two a day for 50 years will lead to disease and disorder in the very vast majority of people. We've come to believe that almost every major disease and disorder is serendipitous, simply coincidence and bad luck but that's not the case at all. We're being poisoned daily from birth. Let's look at just one method of poisoning through our water supply. There are several hundred different methods to disinfect tap water from simple to complex, each leaving tap water disinfection by-products (DBP's) behind, over 600 identified with expectation in the peer review for the number to reach or exceed 1000 new chemicals as a result of tap water disinfection. Yes, your tap water is virus, bacteria and fungus-free but it's contaminated with things like, for example, ibuprofen, a very, very small molecule that we still can't filter from the water supply. It's not that a minuscule dose of ibuprofen is harmful, it's that we don't know what that dose will cause in the human body after 40 or 50 years of daily intake. A cities budget determines the method they use to disinfect tap water and some cities use methodology that's 100 years old while others use the latest technology with the Wild West of disinfection methods in between. Both tap and bottled water are contaminated and should be filtered with a reverse osmosis filter system at least. This is only one example. Let's look at typical US tap water content.

Typical Tap Water Content

- Chlorine
- Fluorine compounds
- Trihalomethanes (THMs)
- Salts of: arsenic, radium, aluminium, copper, lead, mercury, cadmium and barium
- Hormones
- Nitrates
- Pesticides
- Pharmaceuticals
- Disinfection By-Products (partial list below)

The implications of disinfection by-products (DBPs) present in drinking water are of public health concern because of their potential mutagenic, carcinogenic and other toxic effects on humans. You'll notice that the last DBP listed below is a powerful sedative used in surgical procedures. In a study by a group of medical researchers from Key Laboratory of Environment and Health, Ministry of Education and Ministry of Environmental Protection, and State Key Laboratory of Environmental Health, School of Public Health, Tongji Medical College, Huazhong University of Science and Technology in Hubei, China, scientists selected the 13 primary DBPs found in drinking water to analyze their cytotoxicity, carcino-genesis and genotoxicity. These disinfection by-products are relatively new discoveries and while we've identified well over 600 of these chemicals we know there are 100s more that we have yet to identify.

Moreover, we haven't yet had the time or funding to properly investigate the consequences to human health of ingesting these chemicals on a daily basis for decades. We're preventing bacterial, viral and fungal growth in our tap water using processes that leave behind a smorgasbord of deadly chemical by-products that we know nothing about. We're discovering that these chemicals are the direct cause of a wide array of major human health problems beginning with metabolic disorder, the precursor for all human disease and disorder.

Primary Disinfection By-Products (DBPs) Found In Tap Water, Rivers, Lakes and Streams

- **MX** 3-chloro-4-(dichloromethyl)-5-hydroxy-2[5H]-fura3-chloro -4-(dichloromethyl)-5-hydroxy-2-[5H]-furanone
- **DBN** dibromoacetonitrileIA iodoacetic acid
- **BCN** bromochloroacetonitrile
- **BA** bromoacetic acid
- **TCN** trichloroace-tonitrile
- **DBA** dibromoacetic acid
- **DCA** dichloroacetic acid
- **CA** chloroacetic acid
- **TCA** trichloroacetic acid
- **DCN** dichloroacetonitrile
- **CN** chloroacetonitrile
- **CH** chloral hydrate

The soil is fully depleted of nutrients from years, decades of pesticide and fertilizer use killing off the soil microbiome necessary for plants to obtain nutrition and to maintain healthy topsoil. The nutritional value of the food supply, for example the nutritional value of broccoli or an orange, has been reduced substantially between 1900 and today. So let's examine the peer review and the Great Global Poisoning which is virtually unavoidable.

WHAT ARE WE GOING TO DO TONIGHT KLAUS?
SAME THING WE DO EVERY NIGHT BILLY... TRY TO TAKE OVER THE WORLD!
Billy
Klaus

WHO RUNS THE WORLD & HOW?

By Jeff Prager

Norman Paul Dodd, born on June 29,th 1899 and passed away on January 24, 1987) was a banker/ bank manager, worked as a financial advisor, and served as chief investigator in 1953 for the Special Committee on Tax Exempt Foundations (commonly referred to as the Reece Committee), which was chaired by U. S. Congressman B. Carroll Reece. Dodd was known primarily for his controversial investigation into tax-exempt foundations. Dodd was interviewed shortly before he died by the journalist G. Edward Griffin. An interview documentary was produced as a result, which has gained a very wide audience in later years and a link for that video is at the lower right.

To fully understand this book on a much higher level, it's recommended both videos at right should be watched before reading further. Because Dodd's adult life spanned the 1920s through the late 80s and his long-term relationships gave him a unique perspective not afforded to others.

During or after the 1929 stock market crash he was assigned by his superiors the task of restructuring the bank he was working at, after a period of which he recommended what at the time was referred to as "sound banking". He was told by his superiors that his recommendations would not be implemented because "we will never see sound banking in the United States again". Dodd's claims about his investigative work have become the cornerstone of theories implicating the Carnegie Endowment for International Peace, Ford Foundation, and the Rockefeller Foundation, among others in the manipulation of the vast majority of the American public with social, political, cultural and historic propaganda. He stated in his findings that many foundations were intentionally campaigning to involve the United States in such wars as World War I and that they also sought ways to warp American teaching of history through explicit control of the education system in the United States. Rene Wormser, the legal counsel to the Reece Committee, wrote in his 1958 book on the subject, "It is difficult for the public to understand that some of the great foundations which have done so much for us in some fields have acted tragically against the public interest in others, but the facts are there for the unprejudiced to recognize."

During a grand jury hearing held by an international group of attorneys, including Dr. Reiner Fuellmich, Alex Thompson, a veteran of Britain's equivalent of the U.S.'s National Security Agency, above right, details how London is the power center of the world and how the handful of elites who control it—along with their Wall Street proxies in the U.S.—have been working to gather the world's population, or "livestock" as they refer to the world's people, under their rule, using wars, psychological operations and crises (manufactured or otherwise), like the pandemic, to further their one-world government agenda. The video is over 5 hours. You only need to understand the history revealed by Alex Thompson, the veteran of Britain's equivalent to our National Security Agency. Both videos will provide you with the titles of books you may want to read to dig deeper into this subject.

In the end, Vanguard, whose shareholders are private and secret, owns everything, and that's where you'll find the names of the 13 families or so that run the world, dictate your opinion through media propaganda and coordinate the wars being fought against us, repeatedly, decade after decade.

Alex Thompson, a veteran of Britain's equivalent of the U.S.'s National Security Agency, provides the historic background from the late 1700s through today.
https://www.youtube.com/watch?v=oLxQK_36yzU

Norman Dodd on tax exempt foundations exposing the truth behind the structures the global elite use to direct and manipulate everything we assume is our reality—when it's not.
https://www.youtube.com/watch?v=YUYCBfmIcHM

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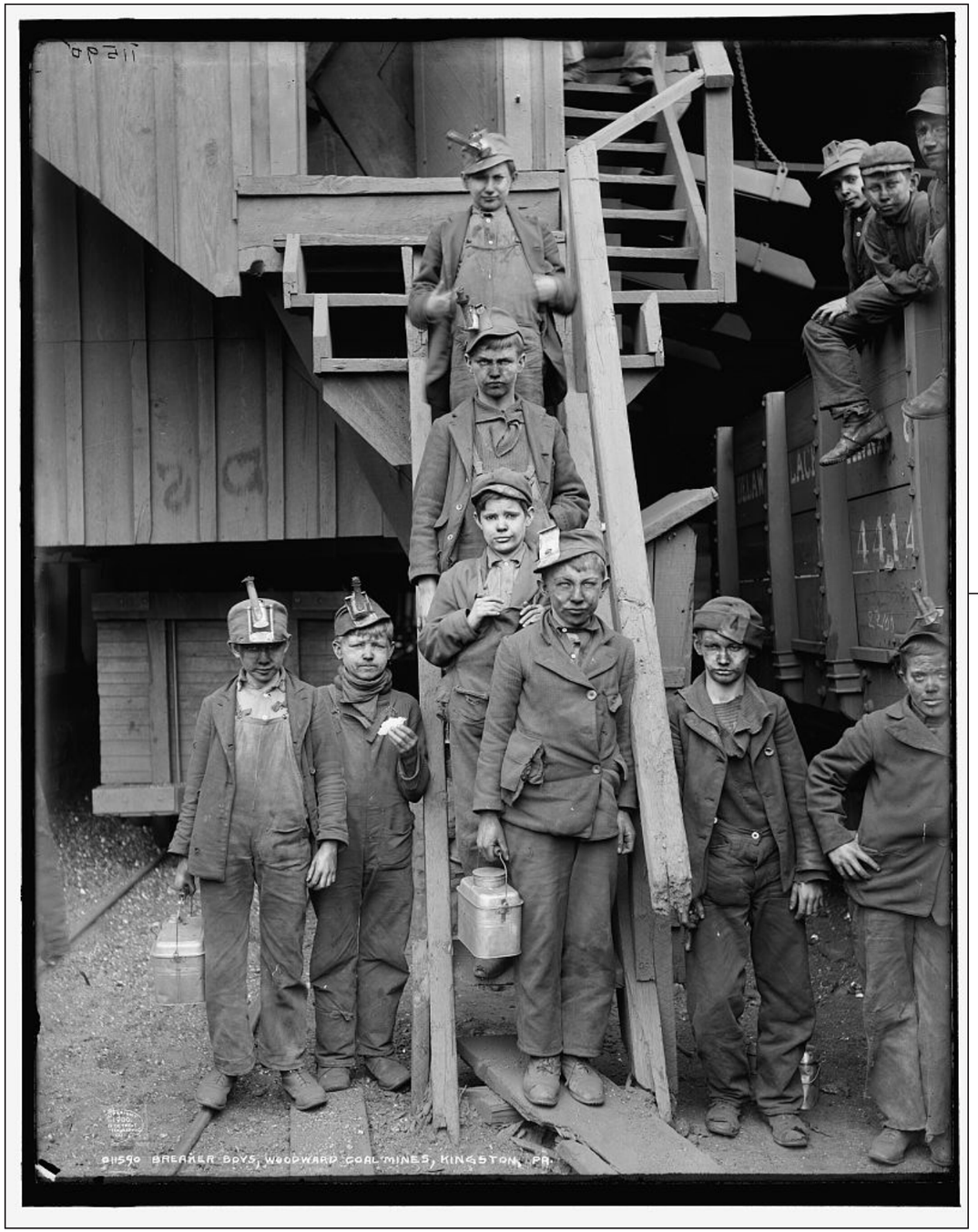
The next several pages contain 9 black and white images from 1900.

Look at the people very carefully. They all show the very same thing.

Or maybe it's what we don't see that's so critically important.

What Do You See Represented By These Images Collectively That Is So Conspicuous & So Obviously Different From Today, 122 Years Later?

* NOTE: the image descriptions and accompanying text contain no clues. What do the images themselves show?
See Chapter 2 for the answer.



Breaker Boys, Woodward Coal Mines, Kingston, Pennsylvania Circa 1900

Breaker boys worked in the coal mines. Their main job was to separate chunks of coal by hand. As coal came down the conveyor belt, they would break up the coal into common sized pieces and also separate out any things like rocks, clay and soil. Boys were usually between the ages of 8 to 12, but sometimes were as young as 5 or 6. The breaker boys would work 10 hours a day, 6 days a week. For pennies, and die young. Not much has changes in 122 years, in fact today we're experiencing disease and disorder that never existed in 1900s America. From cancer and heart disease to infertility and sexual confusion and from Parkinson's Disease and High Blood Pressure to Autoimmune Disorders and Metabolic Disorder, compared to 1900s America we're in the midst of a global pandemic of new, unusual diseases and ostensibly unexplainable disorders. This eBook is about that explanation.

Emancipation Day
in Richmond, Virginia
Circa, 1905

Commemorations such as these honor the rich and complex lives, contributions, and sacrifices of enslaved and free Africans and African Americans. It goes without saying, in many ways it's significantly worse today than it was in 1900. In many ways far better but in just as many ways considerably worse.

Free Ice
In New York City
Circa 1900

Lock & Drill Department
National Cash Register
Dayton, Ohio
Circa 1900

The Industrial Revolution gives rise to a paradigm of a pure flow economy: everything that is produced just has to be made available to the public – someone will eventually buy it. There is simply not enough supply to satisfy all the demand: we have to produce and produce more.

For this reason, companies see themselves hierarchically under the pyramid model and, in terms of functioning, as an assembly line, subjecting the workflow to the specialization of activity by sector: organizations are a system, that is, a set of different elements, working together, performing different functions, for a common good. You have to keep the machine oiled.

The external environment is seen as being almost a deposit of production, as if buyers didn't exist production would continue anyway in some Orwellian fantasy.

This time, there is no concern with anything other than the maximization of pure profit: pay little, buy low, sell high.

New York City
Recreation Dock
Circa 1900

New York City
Coney Island Beach
Circa 1900

Shooting A Bull
In Central Park
Circa 1900

New York, like most older American cities, has changed plenty over the centuries. But one ever-present trait is the city's photogenic nature: it's the backdrop of many a tourist photo, Hollywood movie, and music video. And that urban beauty even extends back to the early 1900s. This image from the Library of Congress affords us the opportunity to look back at New York when it was just entering the 20th century and examine just what's so starkly different about the citizens of New York City as compared to the New York City of today.

GREENWICH VILLAGE FAIR - "HOT DOGS"
4212-6

Flower Vendor's Easter Display in Union Square Park, New York City, NY Circa 1900

CHAPTER ONE

EDUCATION

The Great Global Poisoning

By Jeff Prager

The "Great Global Poisoning," hereinafter referred to as "the poisoning," is a vast and complex set of conditions that have slowly altered the human species at a cellular level and very rapidly towards disease, disorder, disability and early death. The poisoning is something humanity has unknowingly endured for over 120 years at exponentially progressive rates and suffered the extraordinary and dire consequences—financial, social, religious and medical/physical—and the poisoning is fully global in nature. A poisoning that manifests in a myriad of ways from confusion as regards what is and is not reality to actual physically debilitating diseases.

The poisoning is so prodigious and monstrous, and so boundless and expansive with so many moving parts that I have to break it down into categories, the first of which I touched upon in my last book. We start with something that may seem odd as a poison, but it is malevolent, malicious and malignant as you'll soon see. It's one of the primary tenets of the systemic poisoning of the human species because it's a cultural poisoning. Not only does it revise and rescript history, it teaches worthless dribble as you'll read proof of shortly

The US Pubilc Education System was set up in the early 1900s by John Dewey, the Carnegies, the Morgans, IBM and other elites of that day who needed employees, not scholars, lawyers and scientists. Since the beginning of Western civilization, the school curriculum was always centered around the development of academic skills, the intellectual faculties, and high literacy, and rightly so. But John Dewey wanted to change all of that. Why? Because high literacy produced that abominable form of independent intelligence which was basically, as Dewey believed, anti-social. He even believed reading to learn to access literature a perversion. But he too simply wanted employees.

In 1913 John D. Rockefeller, Jr's Director of Charity for the Rockefeller Foundation, Frederick T. Gates, set up the Southern Education Board (SEB), which was later incorporated into the General Education Board (GEB) in 1913, setting in motion "the deliberate dumbing down of America." The Country School of Tomorrow: Occasional Papers No. 1 (General Education Board: New York, 1913) written by Frederick T. Gates contained a section entitled "A Vision of the Remedy" in which he wrote the following:

> "Is there aught of remedy for this neglect of rural life? Let us, at least, yield ourselves to the gratifications of a beautiful dream that there is. In our dream, we have limitless resources, and the people yield themselves with perfect docility

> to our molding hand. The present educational conventions fade from our minds; and, unhampered by tradition, we work our own good will upon a grateful and responsive rural folk. We shall not try to make these people or any of their children into philosophers or men of learning or of science.We are not to raise up from among them authors, orators, poets, or men of letters. We shall not search for embryo great artists, painters, musicians. Nor will we cherish even the humbler ambition to raise up from among them lawyers, doctors, preachers, politicians, statesmen, of whom we now have ample supply.

Charlotte Iserbyt was the Secretary of Education during the Reagan Administration and she eventually wrote a wonderful book that I've read many times. I'd like to begin the first leg of many legs, like a centipede, of this journey with a short excerpt from Iserbyts book.

A deliberate math "Dumb Down" was seriously discussed in the late 1920s. A teacher named O. A. Nelson, John Dewey, Edward Thorndike (*who conducted early behavioral psychology experiments with chickens*), and other Council on Foreign Relations members attended a Progressive Education Association meeting in 1928. At that meeting Mr. Nelson was informed that the purpose of the "new math" was to dumb down students. Nelson revealed in a later interview with Young Parents Alert that the Progressive Education Association was a communist front. According to the National Educator (July 1979). The story told by Mr. O.A. Nelson's is self-explanatory:

> "I know from personal experience what I am talking about. In December 1928, I was asked to talk to the American Association for the Advancement of Science. On December 27th, naïve and inexperienced, I agreed. I had done some special work in teaching functional physics in high school. That was to be my topic. The next day, the 28th, a Dr. Ziegler asked me if I would attend a special educational meeting in his room after the AAAS meeting. We met from 10 o'clock [p.m.] until after 2:30 a.m."
>
> "We were 13 at the meeting. Two things caused Dr. Ziegler, who was Chairman of the Educational Committee of the Council on Foreign Relations, to ask me to

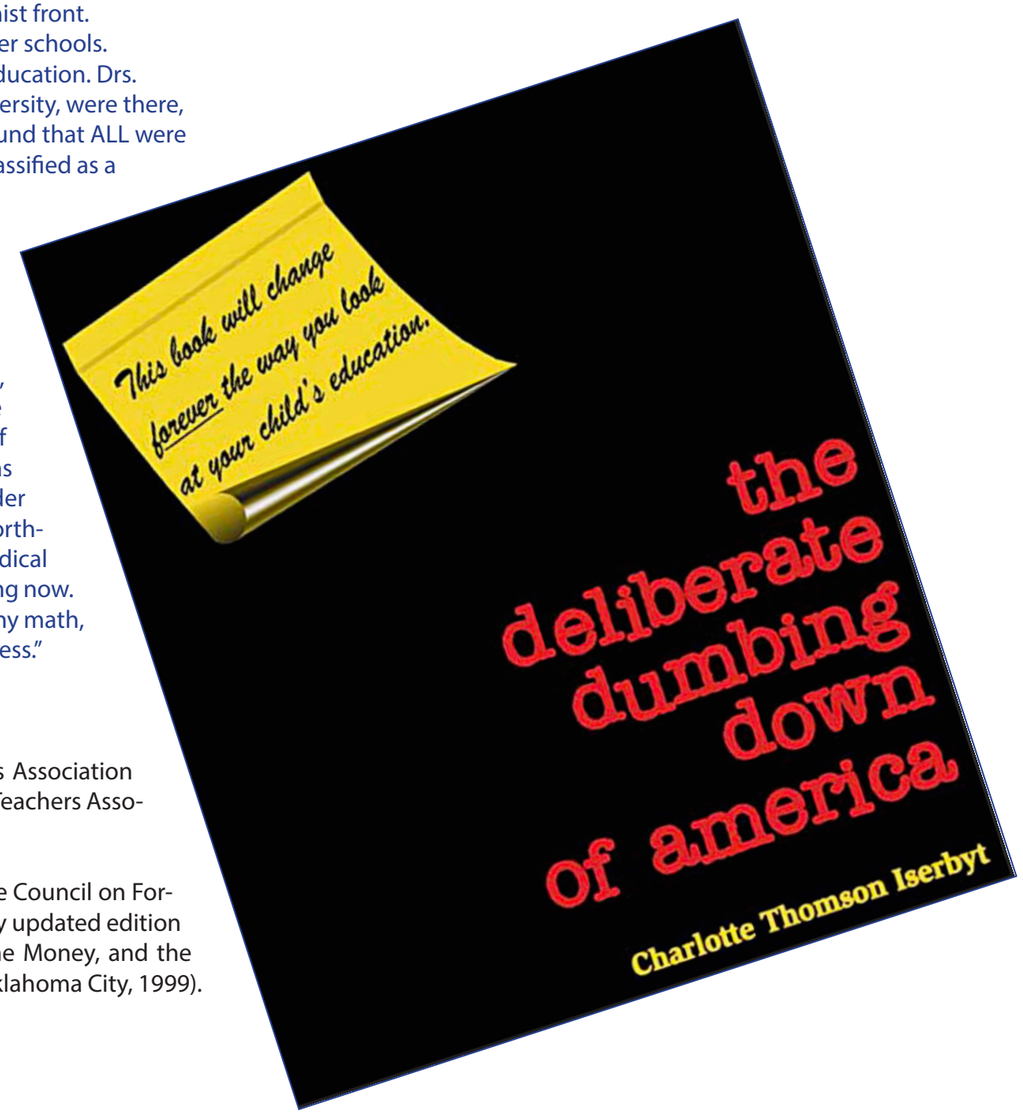
attend... my talk on the teaching of functional physics in high school, and the fact that I was a member of a group known as the Progressive Educators of America, which was nothing but a Communist front. I thought the word "progressive" meant progress for better schools. Eleven of those attending the meeting were leaders in education. Drs. John Dewey and Edward Thorndike, from Columbia University, were there, and the others were of equal rank. I checked later and found that ALL were paid members of the Communist Party of Russia. I was classified as a member of the Party, but I did not know it at the time."

"The sole work of the group was to destroy our schools! We spent one hour and forty-five minutes discussing the so-called "Modern Math." At one point I objected be cause there was too much memory work, and math is reasoning; not memory. Dr. Ziegler turned to me and said, "Nelson, wake up! That is what we want... a math that the pupils cannot apply to ife situations when they get out of school!" That math was not introduced until much later, as those present thought it was too radical a change. A milder course by Dr. Breckner was substituted but it was also worthless, as far as understanding math was concerned. The radical change was introduced in 1952. It was the one we are using now. So, if pupils come out of high school now, not knowing any math, don't blame them. The results are supposed to be worthless."

Endnotes:

1. The referenced North American Association for Montessori Teachers Association Journal is published by the North American Association for Montessori Teachers Association (Cleveland Heights, Ohio, 1988, 4th quarter).

2. Much of the information in the entry concerning the formation of the Council on Foreign Relations, including Prof. Quigley's quote, is taken from the recently updated edition of Dr. Dennis Laurence Cuddy's Secret Records Revealed: The Men, the Money, and the Methods Behind the New World Order (Hearthstone Publishing, Ltd.: Oklahoma City, 1999).



WHY PUBLIC EDUCATION IS USELESS

Intellectual rhymes with ineffectual, and rightly so, many would say. The uselessness of education is a perdurable theme in Western cultural history—-one so influential, in fact, that any respect we might have for highly educated people is likely to retreat before our suspicion of them. Tradition encourages us to think that those who are book smart are lacking in street smarts. We are inclined to believe that even if their hearts are in the right place (a dubious proposition to begin with), their heads are in the clouds. We entertain this suspicion even if we have never heard of Aristophanes and of the work that he titled The Clouds. Regardless, in our complaints about educators today we still echo this ancient Greek playwright's mockery of Socrates, that "high priest of windy words." The immemorial theme of the uselessness of education is so pervasive that we find it voiced by the most disparate people imaginable. A Chinese emperor of the third century B.C., Qin Shi Huang, is said to have buried intellectuals alive; and as we can learn from Richard Hofstadter's classic study, Anti-Intellectualism in American Life (1963), the impulse certainly did not die with him. "It is evident that to read too many books is harmful," said Mao Tse-Tung; as many reporters found cause to remark during the 2000 presidential campaign in the United States, George W. Bush seems to be of much the same opinion.

Of course, Bush pays lip service to the importance of education; and despite the popular sport of taking potshots at "sissy-britches intellectual morons," as George Wallace characterized persons such as myself, people rarely damn education absolutely and completely. In the words of Derek Bok, the former president of Harvard, "Disputing the importance of education may seem comparable to criticizing motherhood and family." Nonetheless, the idea that education is useless goes well beyond our occasional jabs at windbags, intellectuals, and pompous poseurs. Like a haunting spirit, this theme is liable to materialize in all our social relations, cultural forms, activities, and aspirations, threatening to set them at naught.

SO WHY IS PUBLIC EDUCATION USELESS?

Education is useless because it destroys our common sense. As Michel de Montaigne suggested in the late sixteenth century, paraphrasing the apostle Paul, "The man who presumes to know no longer knows what it is to know." Or as he commented in an essay on Virgil, "The sciences treat things too subtly, in a way that is too artificial and different from what is usual and natural." The effect of schooling, he said, quoting Seneca, is to transform "simple virtue" into "an obscure and subtle science." We turn to common sense for relief, as Cornelius Agrippa commented in the following century: "Thus, I say, sometimes the simple and rude Idiot sees those things oft-times, which a School-Doctor, blinded with the Traditions of men, cannot perceive." Forrest Gump could not have put it better. It is just astonishing how stupid education can make people: in the words of Cicero, written thousands of years before George Wallace inveighed against pointy-headed intellectuals, "Somehow or other no statement is too absurd for some philosophers to make."

Education is useless because it leads us away from practicality. "Our people have no need of diplomas to improve their country gloriously," said the Khmer Rouge; and though their methods were hideously extreme, their sentiments on this subject reflect an ages-old conviction that schooling makes people less able to cope with everyday life. Ventriloquizing popular suspicions of philosophers, Erasmus wrote, "Though they know nothing at all, they profess to know everything; and though they do not know themselves, and sometimes can't see a ditch or a stone in their path (either because most of them are blear-eyed or because their minds are wool-gathering), nevertheless they claim they can see

ideas, universals, separate forms, prime matter, quiddities, ecceities—-things so fine-spun that no one, however 'eagle-eyed,' would be able, I think, to perceive them." Robert Burton contended that the most successful pupils are usually "silly, soft fellows in their outward behaviour, absurd, ridiculous to others, and no whit experienced in worldly business." Even a revered latter-day humanist such as Lionel Trilling, as remembered by Lennard Davis, was liable to "feel silly being a grown man studying literature, wasting his time with words." The belief in "knowledge for its own sake" that one finds in universities "may strike some people as effete," writes Bok, and we all know as well that the more educated people are, the more they prefer "theory-building, generalization, and creative insight over the transmission of practical skills." We should not be surprised, then, at attacks on "'useless' time spent on research," even though researchers such as Joan Wallach Scott will seek to refute them. Book-smart, street-dumb: our rhetorical style may be different, but we still get the gist of what Erasmus and Burton were saying. Meanwhile, down-to-earth people like survivalists caress their weapons and look forward to confirming their expectation that the most educated types will be among the first to be eliminated when the day of reckoning comes. Practically speaking, after all, survival does not stem from fine words; it blooms from the barrel of a gun.

Education is useless because it leads us away from idealism. Among the humanists of the Renaissance and right on down to the present day, it is not really about inculcating learning or knowledge but rather about breeding social distinction. It serves elites, not the truth. The careerism of today's students and the transformation of universities into "knowledge factories" only make explicit the crude calculations of ambition that have always served to uphold the most subtle refinements of thought. Education is a masquerade of power, a mechanism of power, and a means to power; beyond that, it is useless. As Dr. Timothy Leary taught us, if you really want to learn something, one of the first steps you must take is to drop out.

Education is useless because it isolates us from the rest of humanity. In the early sixteenth century Juan Luis Vives noted that learning "requires freedom and leisure," and the consequence of this requirement is that higher education takes place in an ivory tower whose inhabitants are unable to see, much less to understand and sympathize with, the common people who live outside that tower's ivied walls. Like the astronomer in Thomas Hardy's Two on a Tower (1882), "who was stable as a giant in all that appertained to nature and life outside humanity" while remaining "a mere pupil in domestic matters," educated people in general are estranged from common life and cut off from ordinary fellow-feeling. So Walter Pater's protagonist in "The Child in the House" (1878) feels "a protest" arise within himself "in favour of real men and women" and "against mere grey, unreal abstractions." At times this sort of protest takes the form of a nostalgie de la boue, a desire among the learned to leap from their towers back into the vital ooze of the streets. Leo Tolstoy's attempt to turn himself from a Russian aristocrat into a peasant and Franz Kafka's fantasies of becoming a waiter in Israel are but two of the innumerable examples we have of literati who have wished to devolve into simple folk. The isolation of the learned is so proverbial that it is even commonplace to regard them as being fiercely alienated among their own company. What Agrippa said of philosophers is characteristic: that they maintain "a perpetual War one against another." Clark Kerr, the former president of the University of California at Berkeley, describes the modern version of this situation with the world-weary smile of a man who has sat through too many meetings with academic divas: "[Robert] Hutchins once described the modern university as a series of separate schools and departments held together by a central heating system. In an area where heating is less important and the automobile more, I have sometimes thought of it as a series of individual faculty entrepreneurs held together by a common grievance over parking." Feeling no community even among themselves, educated people are aloof, prickly brainiacs whose only real friends are inert words in dusty tomes.

Education is useless because it hardens our hearts. It makes people think so much that they forget to feel. They find a fitting image in aliens from outer space that exhibit hypertrophied mental powers and no sympathy at all for the earthlings whose bodies they probe. No wonder people felt imperiled by Robert Bork's remark that he looked forward to serving on the Supreme Court as to "an intellectual feast"! Educated people become abstract rather than concrete, logical rather than emotional, analytical rather than trusting, cold rather than warm. Accordingly, as we envision them, an English professor to whom a student writes a desperate plea for help will return it with grammatical errors marked in red; a theologian preoccupied with fitting angels on the head of a pin will walk unthinkingly past a beggar on the street; an economist will know the price of everything and the value of nothing. Educated people do not shout with excitement, laugh with abandon, or shake their booties to a funky groove, and they look with chilly disdain on those who do. The more dusty they seem, the better they like it. If you happen to love literature, for example, at all costs you must flee from professors waving their "texts" of "theory." You must tear their introductions out of your books of poetry! If you manage to escape their clutches, somewhere you may be able to join an underground cell of book lovers who remember what it means to be moved and inspired by great art; but if you fail, you will not even be able to remember what you have lost.

Education is useless because it lowers our spirits. Erasmus wrote that "the least miserable among men are those who come closest to the level of intelligence . . . of brute animals"; and even though he gave voice to this sentiment with his tongue in cheek, it has held no irony at all for a great many people throughout history. If Burton thought study "fit and proper to expel idleness and melancholy," he also believed that "learning dulls and diminisheth the spirits, and so per consequens produceth melancholy." To know more is only to be more unhappy, even to be damned: such is the Faustian legend that was taken up by the Romantics and that teachers still hear in the pleas of students who cry, "Why did you choose such depressing books for us to read?" Like Maxim Gorky, who learned that people "seek oblivion, comfort, but not knowledge," teachers are continually forced to confront the fact that they are sourpusses (like Miss Crabapple on The Simpsons) whose sole purpose in life is to make otherwise contented students feel bad. "What you don't know can't hurt you" is the kind of thing people say. Montaigne wrote of the "school of stupidity" that gives the vulgar crowd an enviable patience with their woes and a fearlessness toward the future, and in this image of common people we see his own desire—-an extremely common desire—-to escape the miseries of education. Only think of the protagonist of Ingmar Bergman's Wild Strawberries (1957), who really knows nothing at all, despite his academic distinctions, and so is condemned to live and die in loneliness, unlike the couple in overalls who run the gas station at which he stops.

Education is useless because it weakens our bodies. Of course, there are exceptions, as there are with all the reasons why education is useless. "What about scholar-athletes?" I hear someone say. You are free to toast the memory of Moe Berg, the polylingual Princeton-educated catcher for the Yankees, or to gawk at the occasional prof who pumps iron. The fact remains that we all know enough to expect that the sedentary life of learning will make us wimps. Accordingly, Revenge of the Nerds (1984) is centered on academic high achievers who have to find ways to compensate for the physical wussiness inevitably associated with their brains, and it takes a bite from a freakish arachnid to transform the bookish Peter Parker into the star of Spider-Man (2002). Education is a white thing, some say; but education is also a spaz thing, a decadent thing, and, as folks such as George Wallace and Derek Bok have suggested, a sissy thing.

Education is useless because it swells our heads. "Knowledge puffeth up," said Paul (1 Corinthians 8: 1),

thus helping to establish an attitude toward education that after two millennia still shows no sign of fading. In The Advancement of Learning (1605) Francis Bacon had to struggle with the assumption that "the aspiring to overmuch knowledge was the original temptation and sin whereupon ensued the fall of man" and that "knowledge hath in it somewhat of the serpent, and therefore where it entereth into a man it makes him swell." Like weakening, lowering, and hardening, swelling remains an occupational hazard—-a "professional deformation," the French say—-for learned people today. Through education, one is likely to become a know-it-all—-and we all know that nobody likes a know-it-all. Education tends to make us snooty, if not to the extreme of Friedrich Nietzsche's Übermensch then at least to the extent of Ben Stein, the former minion of Richard Nixon and current TV game-show buffoon. One does not have to be highly educated to be a megalomaniac, of course, but it helps, as countless movies about mad scientists have assured us.

Education is useless because it dulls our personalities. Being a student, a teacher, an intellectual, or any sort of learned person is a far cry from being a pop star, and it shows. One does not expect learned people to be fashion forward, to say the least. One expects them to be grey, dull, unassuming, and, in a word, soporific. Thus, a former colleague of mine tells the story of how a student was dozing off in his class until he woke the sluggard up and suggested that since he was having so much trouble staying awake, he should stand at the back of the room for the rest of the hour. The sleepy student did so, my colleague resumed lecturing—-and a couple of minutes later, another student suddenly rose and went to stand at the back of the room. My colleague admired the second student's chutzpah, as have all the academics to whom I have told the tale, but we also laugh at it because we recognize how perfectly it fulfills our own worst fears. We all have stories like this that we tell on ourselves.

Education is useless because it makes us slaves. As "society's agent for cultural transmission," in the words of Donald Kennedy, the former president of Stanford, the university is apt to become the symbol for all that is most conservative in society. ("Cultural change," which Kennedy also mentions, tends to disappear into the files of successive, and successively neglected, five-year plans.) Among administrators and the businessmen with whom they are increasingly allied, scholars' resistance to change is legendary, but education makes us slaves in other senses as well. "Learning means nothing [tut's nicht]!" exclaimed Nietzsche in 1884, explaining, "The scholar is the herd animal in the realm of knowledge—-who inquires because he is ordered to and because others have done so before him." In other words, Nietzsche considered that education was designed to weed out free spirits, those who were in any way exceptional, while rewarding those who willingly bend under its yoke of stultifying mediocrity. He thus adapted to his own time, in which education was being democratized and modernized, the long-standing suspicion that education is ignoble. Sir Thomas Elyot, the famous examplar of Renaissance humanism, was appalled that many men of his time thought "that to a great gentilman it is a notable reproche to be well learned and to be called a great clerke," but this notion that education is degrading was likely to be expressed even by those who prided themselves on their learning, such as François Rabelais. (Of the teachers of Gargantua's youth, he wrote that "their learning was mere stupidity, and their wisdom like an empty glove; it bastardized good and noble minds and corrupted all the flower of youth.") In the resistance of his titular hero to his tutor, Henry Fielding dramatized this quasi-aristocratic sense of the ignobility of education in Tom Jones (1744), and versions of this criticism continue to be popularized in our own time, as in Michel Foucault's comparison of schools to other "disciplinary" institutions, such as prisons and asylums. The trendy right-wing accusation that universities inculcate "political correctness" in those put into their charge is another version of this accusation that education enslaves, producing Stepford students. In the words of Herbert Spencer, the polymathic Victorian sage, "Men dress their children's minds as they do their bodies, in the prevailing fashion."

Education is useless because it makes us rebels. It turns us into bohemian and politically correct radicals, queer and anti-social misfits, ivory-tower radical-chic utopians, idiosyncratic scorners of social order. The case of Socrates, that corrupter of youth and defier of the gods, is the locus classicus for this conviction, which has been reinforced in the United States by the McCarthyite witchhunts of the 1950s; by the reactions against campus protests associated with the free speech, civil rights, black power, antiwar, feminist, and gay and lesbian rights movements of the 1960s and 1970s; and by the "culture wars" of the 1980s and 1990s. From the age of Socrates to the last half-century of American social history, learning has been seen as having the potential to incite rebellion against tradition, political order, and religious orthodoxy. Some teachers at state universities in the U. S. are still required to sign loyalty oaths and thus are formally reminded of the presumption that learning makes one suspect in the eyes of the law. Even where the law is less ham-handed, though, one cannot help but be aware that trials, inquisitions, purges, book-burnings, and executions have played as crucial a part in academic life over the centuries as have classes and convocations. In the long history of trying to keep education from various groups of people, such as the working classes, women, and slaves, for fear that it would make them discontented, we see this knowledge that education is useless because it leads to insubordination. So, too, do we see it today in religious institutions, such as Baylor University, that require prospective professors to submit a statement on their moral convictions so that their loyalty to certain limits of thought can be established. A little learning is a dangerous thing, perhaps, but so, evidently, is a lot.

Education is useless because it impoverishes us. This ancient complaint—-that education leaves us "eloquent, but in rags"—-still has currency today despite the oft-quoted statistics about how much more, on average, college graduates earn than those with only a high-school diploma. "The learned pate / Ducks to the golden fool," says Shakespeare's Timon; and even though we do not still think that it is the lot of the scholar to be subject to the whims of boorish aristocrats, popular wisdom does tell us that "A students work for C students." In other words, to be too preoccupied with learning is to miss the main chance. We all know that nobody goes into teaching for the money, and by the same token we all know that learning in general is profitable only for those who leave behind theory, free inquiry, and pure research in favor of work for business and industry. You cannot eat knowledge; it does not pay the bills; even as I write there are people with Ph.D.s driving taxis, temping at dot-coms for degree-free multimillionaires, and cutting any mention of their post-grad studies from their resumes so that they will not appear overqualified for the jobs at which they hope at last to make some real cash.

Education is useless because it pampers us. Students, teachers, and scholarly types in general think that they are laboring at their jobs if they are reading books or simply sitting in a comfy chair and staring into space. Nice work if you can get it, eh? Education accustoms us to a fuzzy, squishy, bleeding-heart sense of the world in which we imagine that conflicts can be solved if we all sit in a circle for a discussion. Education babies us, softens us, making us think that living in the world is as safe as turning the pages of a scholarly journal. Education is a luxury, as we recognize in financing our primary and secondary schools primarily through property taxes (for why should the poor be given on a silver platter the same education as the rich?). It is so useless that we treat higher education in particular as a privilege rather than a right. Accordingly, we make welfare recipients work instead of going to school, not forgetting at the same time to eliminate programs that would allow prisoners to get college degrees, and in fact generally keeping in mind that it is better to spend money on penitentiaries, weapons, and ballparks than on schools. How did such foolishness as offering Pell Grants to prisoners ever get started in the first place? It could only have arisen from the addled brains of coddled eggheads with too much schooling and too little sense.

Education is useless because it makes us optimists. It encourages every crazy idea that people may have no matter how thoroughly the reality of life may refute it. Where but in universities today do we find Marxists, for example? Can these people never learn? Evidently not—-for like all their intellectual comrades, they would rather stick to illusions than face facts. If you want to become a dreamer, a utopian, then by all means you should take education seriously and pursue it as far as you can. If you want to come up with real-world solutions to real-world problems, though, you need to climb down out of your ivory tower and get your hands dirty for once in your life. The idealism of youth may be charming, of course, and the idealism of their teachers may generally be harmless, since after all they are only teaching, not really doing anything; but still education is quite useless. At best, its idealism is a phase people go through, like experimenting with drugs and hair styles, before they settle down to real life. At worst, it bears responsibility for the careers of Joan Baez, the Indigo Girls, and Hillary Clinton.

Education is useless because it makes us pessimists. In the term that William Safire penned for Spiro Agnew, that distinguished public servant, educated types become "nattering nabobs of negativism." They bite the hand that feeds them, tearing down the country, pissing off Merle Haggard, finding fault everywhere. Instead of approaching things with a can-do spirit, they take pride in seeing obstacles, in multiplying problems, in creating difficulties where there really are none. In Bacon's words, they turn everything into "a net of subtility and spinosity." In describing Pantagruel's encounter with a young scholar who disdained "the common use of speech," Rabelais observed that educated people love even to make communication difficult, refusing straight talk in favor of an unholy and repellent jargon. Pantagruel throttles this particular offender until he repents, speaks naturally, and shits his pants, but the cure is rarely so easy. Educated people become skeptical, cynical, jaded, disdainful of ordinary speech, and unable to let a single moment, object, or event pass without tedious analysis and carping criticism. We have them to thank for the career of Woody Allen.

Education is useless because it leads to dogmatism. It puts so-called knowledge into the sacred forms of textbooks and traditions, and pity the poor student who is naive enough to believe all that claptrap about free inquiry. "They know Galen well but sickness not at all," said Montaigne of the doctors of his day. Like those professors of anatomy who would stand next to a dissected corpse and read from a volume of Galen, teaching their students that if they observed any discrepancy between the ancient theory and the actual body, it must somehow be the fault of the body, education teaches people to disregard the plain evidence of their senses. It was with good reason that Cicero raised the question of whether philosophers' opinions are any better than "the superstitions of the ignorant." Systems come and systems go; modern science puts Galen back on the shelf, but then this science itself becomes a god to which people have bowed down as it taught them, inter alia, that women are inferior to men, that the darker races must give pride of place to the lighter, that dog-eat-dog capitalism is the natural order of things, that eugenics requires the extermination of Jews, and that homosexuality is a form of mental illness. Systems come and systems go, but is any lesson ever learned?

Education is useless because it leads to doubt. In his sixteenth-century treatise on the dogmas of Aristotelian tradition, That Nothing Is Known, Francisco Sanches described the regress into which our reasoning is drawn when it looks for some solid ground on which to base itself: "Perhaps you will have recourse to Almighty God, as both the first cause and the final end of all things, and will assert that there you must stop, and not proceed to infinity. . . . [B]ut I would now say: what follows from this? That you know nothing. In avoiding the infinite you fall into what is both infinite and measureless, incomprehensible, ineffable, and beyond the reach of the understanding. . . . Therefore, you know nothing." Sanches was neither the first nor the last to come to such a conclusion. In the fifteenth century, for

instance, Nicholas of Cusa had argued that our best recourse was to cultivate a kind of "learned ignorance." In the eighteenth century, David Hume would calmly note, "The most perfect philosophy of the natural kind only staves off our ignorance a little longer; as perhaps the most perfect philosophy of the moral and metaphysical kind serves only to discover larger portions of it." More recently, Paul de Man argued that our reasoning inevitably leads us into "aporias," or impasses, that it can teach us to appreciate but not to resolve. Furthermore, even if we can rationally conceive of some ground for and end to learning, we only gain more evidence every day of what has been clear for centuries, which is that there is too much to know and too many ways to approach its understanding. Therefore, the task of learning is really quite futile, leading nowhere but to greater uncertainty. So Vives wrote that "if everything written by these old philosophers, historians, orators, poets, physicians, theologians, had reached this age, then we could put nothing but books in our houses; we should have to sit on books; we should have to walk on the top of books; our eyes would have to glance over nothing but books." We do not really need to turn to persons distinguished for their learning, however, in order to arrive at this insight into the uselessness of education. Those of us who are content-providers in today's ed biz are familiar with the demand of student customers, "Just tell me what you want," which expresses so beautifully the insight of our youth into the abysses, aporias, and middens of reason.

Education is useless because it distances us from real life. Both its dogmas and its doubts have little to do with "real world experience," with "the school of hard knocks," which is the only school that really counts. It is for this reason that scholarly knowledge is proverbially said to "stink of the lamp," unlike the fresh truths that thrive in the light of day; it is for this reason that "college boy!" can be an epithet spit out between clenched teeth or grinning lips (depending on how badly the new hire has just screwed up).

Education is useless because it mires us in real life. In its conservatism and dogmatism, it puts blinders on us so that we cannot see the alternative forms of life that we have passed by. "We do not wish to barter what you call our ignorance for your useless knowledge," Denis Diderot had a Tahitian say to a European visitor in his "Supplement to Bougainville's Voyage" (1773-74), and one of the implications of this statement is that a sense of reality may be nothing more than an ethnocentric hallucination that enslaves its proponents even as they destroy others in its name. To be in touch with real life is then to be out of touch with the truth of things, which we can recognize only in the estranged form of imagination, which we associate with primitive states of being because we are so alienated from our own nature. So we live in an upside-down world, believing in the lie of reality and missing the truth of imagination, as Montaigne also suggested in his portrayal of the natives of Brazil who "pass their life in an admirable simplicity and ignorance, without letters, without law, without king, without religion of any kind." The fact that his Brazilians, like Diderot's Tahitians, were largely figments of his imagination cannot be an objection here, for this is exactly the point: that the spell of educated reality is so strong that it can be broken only by exotic inventions.

Education is useless because it makes us phonies. It makes us the kind of people who deny the difference between truth and illusion, reality and imagination, history and fiction. Like that notorious Paul de Man, educated people learn to conceal the truth about themselves and to put on a false front of knowingness. It takes a straightforward character like Jack London's Martin Eden to recognize them as "numskulls, ninnies, superficial, dogmatic, and ignorant," and to wonder in alarm, "What was the matter with them? What had they done with their educations?"

Education is useless because it makes us pedants. It does such damage to our common sense, our sense of practicality, our sense of idealism, our human sympathies, our hearts, our spirits, our bodies,

our heads, our personalities, and all the other aspects of our being that we can scarcely give utterance to an opinion without searching into the past for authorities—-suitably footnoted, of course—-to back it up. Could there be any clearer demonstration of the uselessness of education?

In tracing the broad outlines of this theme, I do not mean to suggest that the conception of education is always and everywhere the same. On the contrary, in this study I am primarily concerned with the distinctive forms in which hostility to education, and especially to higher education in the humanities, has appeared in the United States during the last three decades. First, in the context of the Holocaust and recent academic scandals related to it, I focus on the question of why education does not make us humane. Complaints about the role of theory in the humanities then lead me to consider why it does not make us more loving. Turning my attention to the hypercommodification of art, I strive to explain why education does not make us more sensitive to beauty. The issues of affirmative action and multiculturalism inevitably raise the question of why it does not make us more assured of our identities, just as the prospect of civil and natural disasters must make us wonder why it does not make us more apt to survive; and so I investigate these matters, too. Finally, in what I take to be a fitting conclusion to all these questions, the ongoing corporatization of higher education becomes the stimulus for an inquiry into why education does not make us better able to calculate the utilities of things.

Despite this emphasis on contemporary affairs, to recognize that the uselessness of education is a perdurable theme in Western cultural history is a crucial preliminary to any discussion of schooling now. For the antieducational attitudes that I have briefly sketched above have a deep truth to them, and that truth is despair. This truth is only strengthened, not weakened, by the inconsistencies, contradictions, and reckless reasonings that become apparent when one gathers together the satires, commonplaces, jokes, treatises, and histories that collectively establish the theme of the uselessness of education within our cultural heritage.

Of course, despair lies in wait for every human endeavor. It is a standing possibility that is liable to come alive within us, with good cause or for no apparent reason, at any moment. Failure in work or in love, the onset of an illness, an accident, a horrible discovery, or simply a moment of calm in which one has a chance to pause and think—-anything, really, can bring it upon us. Despair enjoys a special intimacy with education, however, because education may seem to be coterminous with culture, which comprises everything that makes humans human. Whenever and wherever despair touches our human selves, therefore, it touches our sense of what education is all about.

As our "second nature"—-as everything about us that is acquired through social life as opposed to being driven by strictly biological programs—-culture may be defined as that which is open to education. (It is this conjuncture that leads to our fascination with feral children and to the ambiguities in the pedagogue's assumptions, methods, and purposes that François Truffaut dramatized in The Wild Child [1970].) To be sure, education is usually employed in a narrower sense, to refer to particular cultural practices or institutions, but even these narrower uses inevitably blur into the broader sense in which education encompasses everything that contributes to our development as individuals and as a species. We live and learn: the limits of our education are not set by the covers of books or the walls of schools. Limits are everywhere, of course, in biological, economic, technological, and historical forms, but our encounters with them and what we make of them contribute to our education. Live and learn, we say, recognizing that whatever formal schooling we may have is but a special case of the activity in which we are ceaselessly engaged by virtue of our claim to being human.

This very recognition is what accounts for the fact that the uselessness of education has been such a popular theme in Western cultural history from the time of the ancient Greeks to the present day. Despite the differences in the forms taken by education at different times and places, the bottom-line remains the same: that the meaning of education tends to become coterminous with culture. (In this respect it is unlike every other social institution, including governmental, religious, military, and familial organizations.) Therefore, whenever fault is to be found with any aspect of culture, it is easy to blame it on education. (Ivan Illich's sweeping claim, "All over the world the school has an antieducational effect on society," is an extreme but not atypical example of this sort of accusation.) Education exists at the intersection of our individual will, our social being, and our conception of humanity, and so it is a ready target for all our dissatisfactions. Because it tends to become such a globalizing term, no matter how limited a particular reference to formal schooling may be, education gathers up all our susceptibilities to despair and represents them back to us as the limits of our humanity. The deep truth in the theme of its uselessness is that education is unable to put an end to the possibility of despair, which is always ready to trump any uses we may think we have found for ourselves, for our societies, or for humanity in general.

If we are to think through the nature of education, then, it is imperative that we do not turn aside from the thought of its uselessness. Instead of rejecting this thought as the reaction of barbarians, fools, and nihilists, we need to acknowledge the truth in what it has to teach us of despair. We need to found our conception of education on this truth, on this knowledge of despair, if we do not wish to keep repeating the same nonsense about educational ideals that Aristophanes laughed out of town more than two thousand years ago. If education is to have any value, we have to admit that it is useless.

This acknowledgment is especially important in the case of the humanities, the area of education with which I am primarily concerned, and most of all in the case of literature, which it is my despair to study. (Even while noting that apparently useless studies might have some practical benefits, Cicero said, "But what of our reading fiction, from which no utility can be extracted?") The humanities are a boutique subject in American universities today, the parsley on the plate of academic offerings, an appendix to the body of the university that usually gets attention only when it is inflamed with some sort of scandal.

Bookish pursuits have always appeared to some as a kind of "debauch," as Cicero put it, and bookish persons as subject to contempt, as Sanches noted. Shakespeare's Berowne in Love's Labor's Lost (c. 1595) is only one of a long line of learned people who have themselves criticized education; and in the eighteenth century Samuel Foote showed that he had his priorities in order by writing, "When land is gone and money's spent,/ Then learning is most excellent." At present, however, the uselessness of the humanities in relation to what most people think of as the purposes of education is so well established that it is truly pathetic to hear the last-ditch defenses that are thrown together on their behalf. The spectacle of reactionary academics calling for a return to a know-nothing "love of reading" is not an edifying one; neither is the spectacle of postmodernist thinkers who, having busied themselves in deconstructing the myths of humanist learning and having found that the public is actually way in advance of their skepticism, now find themselves scrambling to mount a P. R. campaign on behalf of their endangered job descriptions. Ours is an age in which a major news magazine can refer admiringly to a professor "teaching an entire class on one foot, just to keep the kids interested": one could not ask for a better image of the clownish degradation to which we have come in the world of learning today.

In certain respects, of course, teachers have always felt all too familiar with this theme that education is useless. In a scene near the beginning of James Joyce's Ulysses (1922), Stephen Dedalus comes up with one word—-"Futility"—-to describe his labor in teaching a hapless student; and if there lives a teacher who has not often been in a similar predicament, I have not met that fortunate soul. As Julius Getman puts it, "Faculty members hate grading partly because, as they will tell you, it is both boring and demanding, but more significantly because it almost always suggests pedagogic failure." It is no mere rhetorical flourish when Sara Suleri describes "what it means to teach" as "this great impossibility." Teaching is often a very rewarding profession, as the cliché would have it, and no doubt we would all prefer to think of what we call "success stories" and not of those students, or entire classes, that remind us of Aristotle's statement that "it is the nature of a stone to move downwards, and it cannot be trained to move upwards, even though you should try to train it to do so by throwing it up into the air ten thousand times." Even in the happiest of cases, however—-as I am concerned to demonstrate in this study—-the conviction that education is useless lies in wait for us.

It is difficult, of course, for an educator to entertain such a notion. We tend to be caught up in the ideology of our profession, and it is in the nature of ideology to make convictions that seem obviously true to others absolutely unthinkable to oneself. Nonetheless, Goodbye, Mr. Chips (1939) is always liable to be remade as quite another movie, such as the scarifying one made from a play by Terence Rattigan, The Browning Version (1994), and we ignore this truth at our peril—-especially at a time when the humanities have lost the ideological legitimation they once had and so must try to redefine themselves. To pursue this end by arguing for their usefulness, as many are now engaged in doing, is, I am arguing, a dead end.

Instead we must recognize the lasting appeal, the vital attractiveness, of this theme that tells us education is useless. There are always more reasons to despair of education than there are to believe in it, just as there are always more reasons to feel hopeless about the fate of humanity than to think that it will ever live up to the least of its ideals. The burden of my argument in this book, that education is useless, is designed to confront this despair, not to surrender to it. We do surrender to it, however, when we make hypocrites of ourselves by voicing certainties that we cannot possibly hold; when we make thugs of ourselves by composing our book of virtues out of contempt for thought; when we make cowards of ourselves by taking refuge from our present dilemmas in nostalgia, exoticism, elitism, and racism; and when we make idiots of ourselves by taking utility as our god. I choose instead to hope against hope, and so I dedicate this book to all my friends and readers, that they may continue to do their best to teach me how to teach you.

USELESS

THE POISONING OF OUR MINDS

Examples? There are too many to list. We celebrate Martin Luther Kings birthday, a National Holiday, yet who's read his wife, Coretta Scott Kings Civil Trial Transcript? The trial took place when Coretta Scott King sued Lloyd Jowers and the witnesses were all there at the time of Kings murder. At the time of the trial they were all in their 60s, 70s, 80s and some even older but they were there that day and silent until the very low key civil tril where almost 100 witnesses told their stories including ex-military, ex- local and state police, ex-US government employees, ex-Firemen and the regular folks that were there then. It was a different time, a different era and fully controlling a community was much easier then than it it is today. Read the trial transcript for goodness sakes. The US government and almost everyone else from the marines to the local and state police, the mafia, all regular folks but regular folks that still hated African Americans enough to murder them and keep quiet for decades participated. Coretta Scott King won the trial. Every person on earth should read the transcript.

MLK Trial Transcript, PDF:

https://hvp4s20gv1q2qeztnp0fzp2u-wpengine.netdna-ssl.com/wp-content/uploads/2019/05/King_Family_Trial_Transcript.pdf

Physics, calculous, advanced science courses, civics, economics, nutrition and other critically important subjects integral to properly developing a well-rounded and knowledgeable predisposition by the end of highschool was either eliminated completely or so severely distorted that few people understand physics, calculous and the science of anything—medicine, geography, the human body, diet, plants, animals, insects, etc. Charlotte Iserbyts free eBook is proof positive that the educational system was specifically designed to deliberately dumb down not just America but the entire world.

The Deliberate Dumbing Down Of America, by Charlotte Iserbyt, PDF:

https://mpnl.org/Dumbing%20Down%20of%20America.pdf

LET'S EXAMINE SOME OF THE SIMPLE BELIEFS WE HOLD TO BE TRUE

We can start with the media. In 2022 the media is, without question, censoring everything of any value and pushing stories that are authored by intelligence agencies, government agencies, multinational corporations like Pfizer and Merck and towing the government line like never before. Watching Tell-A-Vison, for me, is sickening although I'm compelled to watch an hour or so almost every day so I know what's being said. What the latest lies, obfuscatiuon and propaganda is being propagated, spewed by the numerous hand-held and laptop indoctrination mechanisms.

Did George Washington chop down a cherry tree and then never tell a lie? No. Even the idea of "fake news" being a relatively new phenomenon is, well, fake news. Our country was founded on fake news,

and our first president—well, first-ish, but we'll get to that later—had so much fake news written about him that he makes Trump look like an amateur. People are still claiming that Washington had wooden teeth. He actually had dentures made out of metal and ivory, and you can see the things on display at his home in Mount Vernon, Washington. But nope, the myth about Georges wooden teeth continues to endure more than two centuries later. So read on to take closer look at a few of the most enduring American myths and half-truths.

According to legend, when George Washington was just six years old, he chopped down his dad's cherry tree with a hatchet. When his dad confronted him about it, George supposedly confessed to everything, claiming "I cannot tell a lie." A nice tale, if only it was true. Turns out, the story first appeared in an 1806 autobiography of Washington, whose writer admitted that he was just trying to show how our most beloved president's "unparalleled rise and elevation were due to his Great Virtues."

Every fan of America's favorite pastime, Baseball, knows it was born in Cooperstown, New York. But that history is an invention, cooked up in 1907 by a committee charged with figuring out the origins of baseball. They gave the credit to Abner Doubleday, a Civil War hero who allegedly invented the game in Cooperstown in 1839. The truth is, Doubleday wasn't even a fan of the sport, much less its creator. Variations on baseball have been around since the 18th century, from children's games like rounders to cricket. Baseball as we know it today was the brainchild of New Yorker Alexander Joy Cartwright, a volunteer firefighter and bank clerk who wrote the 'baseball book' and came up with the three-strike rules, the diamond-shaped infield, and all the foul lines.

Then there's Mr. Knighted Christopher Columbus, the slave trader, thief, usurper, rapist and murderer. How this European explorer still gets all the credit, and even his own holiday, is astonishing. Let's start with the basics. You can't "discover" something that's already occupied. That's like "discovering" the leftover pizza in your friend's refrigerator. But even if you discount the Native Americans, Columbus was still 500 years too late to call himself the first European to think America was his personal Costco. Norse explorer Leif Erikson beat him to the punch, landing on these shores during the 10th century. What's more, Columbus didn't even set foot on what would become the United States. He landed on several Caribbean islands, and later Central and South America. Just read his diaries.

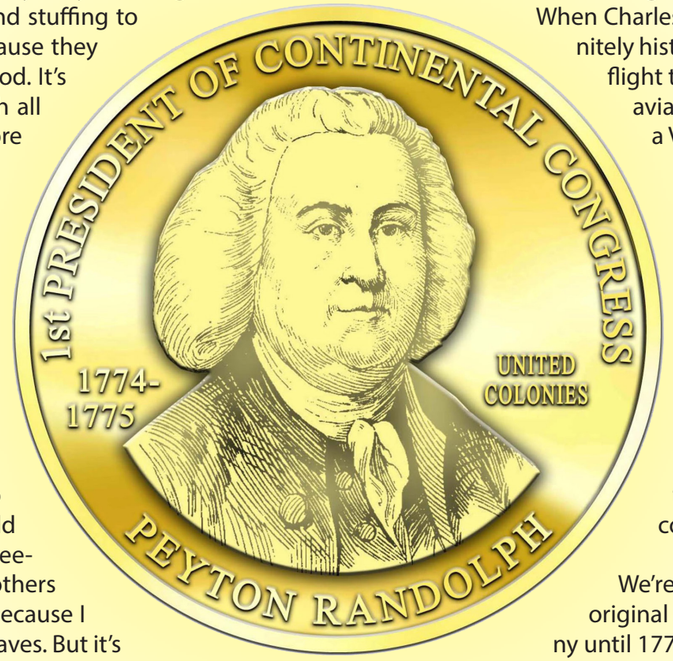
https://www.americanyawp.com/reader/the-new-world/journal-of-christopher-columbus/

Paul Revere shouting "The British are coming!" in the streets would have been the modern day equivalent of running down Times Square in New York and shouting, "The Americans are coming!" At that point, the colonies were still technically British, and not everybody was cool with the idea of a revolution. More likely, Paul Revere—and he was just one of dozens assigned to put the word out in Boston—whispered his alarm, and instead of warning of the British, he likely said, "The regulars are coming out." We have Henry Wadsworth Longfellow's patriotic poem to thank for anybody even knowing Paul Revere's name at all.

The legendary animation pioneer, the guy who made "I'm going to Disneyland" the most common expression of celebration in the free world, didn't actually draw his most famous creation. Sure, Mickey Mouse was his idea, and he provided the voice. But everything iconic about Mickey Mouse—the pancake ears, the red shorts—are the creation of Mr. Ub Iwerks, Disney's favorite animator. The next time you see somewhere wearing a Mickey Mouse shirt or a Mickey Mouse cap with ears, be sure to tell them, "Ah, I see you're a fan of Ub Iwerks."

Edison had a record number of patents—1,093, to be exact—and the vast majority of them weren't his own inventions. He was just a guy smart enough to find real inventors and steal their ideas before they could take the credit. Edison got the patent for the light bulb in 1880, but it's true father was Warren de la Rue, a British astronomer and chemist, who created the first light bulb forty years earlier.

Pretty much everything you know about Thanksgiving isn't true. The story we're told, time and time again, is about Pilgrims having a happy meal with Native Americans, and everybody realizing, "Hey, we're not so different from each other after all. Let's have some turkey and stuffing to celebrate." Nope. The real story involves plagues, and Pilgrims showing up because they thought the Native Americans were sick or dead, so it'd be easy to steal their food. It's probably closer to the holiday experience many people experience today, with all the screaming and tears and accusations and hurt feelings. Just add in a lot more violence to make it a little more realistic.



When we think of the first car, we think of Henry Ford's Model T, first introduced in 1908. It was a swell automobile, but not by any stretch of the imagination the "first" horseless carriage. That happened back in the 19th century, when European engineers like Carl Benz and Emile Levassor were making automobile innovations that were light years ahead of Ford. Benz patented the first automobile in 1886. Ford wasn't even the first to sell cars in the U.S. That would be Ransom E. Olds, who was selling Oldsmobiles in 1901 for the low price of $650.

Abraham Lincoln may have given us the Emancipation Proclamation in 1862, but he had complicated and conflicting ideas about slavery. In an 1862 letter to a prominent newspaper editor, he shared these ambiguous emotions: "If I could save the Union without freeing any slave I would do it, and if I could save it by freeing all the slaves I would do it; and if I could save it by freeing some and leaving others alone I would also do that. What I do about slavery, and the colored race, I do because I believe it helps to save the Union." So yeah, it's fair to say that Lincoln freed the slaves. But it's also fair to note that he was totally open to a plan B.

The United States was founded on Christianity? Not even close. Thomas Jefferson and Benjamin Franklin were deists, which means they believed in God but just not one with holy books and commandments written in stone. George Washington was an Episcopalian, though not a strong enough believer to summon a pastor on his deathbed. John Adams, a Unitarian, claimed that "The government of the United States is not, in any sense, founded on the Christian religion." Also, there's that weird pyramid with a single eye on the dollar bill. I mean c'mon! I hope we all know by now what that's about.

Albert Einsteins failure at mathematics is one of those stories that people with bad grades love to tell. "Sure, I flunked my math test, but so did Einstein." Yeah, sorry to burst your bubble, but that's in no way true. Einstein was always brilliant, even at an early age. The story that he was terrible at math was invented by a Ripley's Believe It or Not! newspaper column in the 30s, with the click-baiting-before-click-baiting-was-a-thing title "Greatest living mathematician failed in mathematics." When a Princeton rabbi shared this story with Einstein in 1935, he just laughed and said, "I never failed in mathematics. Before I was fifteen I had mastered differential and integral calculus."

You think with the constant reminders to "Remember the Alamo" that somebody would've realized

that what was being remembered maybe wasn't all that noble. The 250 or more Americans who died at the Alamo weren't fighting for freedom. Just the opposite, in fact. Texas was still technically part of Mexico after its War of Independence from Spain, but slavery was banned from Mexico in 1829, which didn't make many Texans happy. They wanted to keep their slaves, and General Santa Anna was like, "Nope." So they holed up in the Alamo in San Antonio until… well, you know the rest. Slavery continued for decades in the United States. In fact the country was founded on the backs of slaves.

It's a weird thing about a word like "first." It makes everything seem more significant and special. When Charles Lindbergh took his solo flight between New York and Paris in 1927, it was definitely historic. And shouldn't that be enough? Does it take anything away from Lindbergh's flight to mention that another plane did it eight years earlier, in 1919, piloted by British aviators Alcock and Brown? They'd flown nonstop from Newfoundland to Ireland in a Vickers Vimy biplane.

The Wild West was violent, filled with gunfire, bank robberies, and murder. As opposed to today, people weren't yet poisoned and their behavior was rather normal and human. People had empathy. Major crime was virtually non-existent. Between 1859 and 1900, there were an estimated 12 bank robberies in the entirety of the so-called "Wild West." And the grand total of gun-related murders in frontier towns came to about 1.5 per year. There will have been 1.5 gun-related murders in most major, and even many smaller cities in the U.S. today in the time it took you to read that last sentence.

The infamous 1881 shootout at the OK Corral in Tombstone, Arizona, in which the Earp brothers exchanged gunfire with the Clanton-McLaury gang, had a body count of exactly three.

We're taught that the United States of America, as we know it, spawned from thirteen original colonies. As it turns out, one of those colonies, Delaware, wasn't officially a colony until 1776—just before, you know, the whole revolution thing kicked off. Before then, for the majority of the 18th century, it was a colony of Great Britain. And even further back, since its incorporation, Delaware was part of the Pennsylvania colony. There you have it: America's original set was a dozen.

It's illegal to burn the American flag? To be fair, it was illegal to burn the flag for the majority of American history. But the U.S. Supreme Court ruled, in 1989, in Texas v. Johnson, that preventing someone from burning the flag is a first amendment violation. (The Court upheld their decision in 1990's U.S. v. Eichman.)

Let's end where we began, with our first president. Or our "kind of" first president. We all just naturally assume that George Washington was number one.

During the American Revolution, several presidents were elected by the Continental Congress, the first being Peyton Randolph, who created the Continental Army. Thomas Mifflin, who was president between 1783 and 1784, oversaw the ratification of the Treaty of Paris. John Hancock, who became more famous for signing the Declaration of Independence, was the president between 1785 and 1786. George Washington was our first president to be elected by the people, but technically speaking, he was our 15th president.

As it turns out, the First Lady of Food wasn't real at all. Since Betty Crocker's inception almost a century ago, multiple models tricked us all into thinking that the female goddess of the kitchen was a real person—though, admittedly, she aged a little too well. Shockingly, Aunt Jemima never existed either. In fact, similar to Betty Crocker, this character—created by R.T. Davis and then later passed on to Quaker Oats—was merely a series of actresses paid to portray the queen of pancakes.

Sorry, Nancy Drew fans, she never existed. It was actually Edward Stratemeyer who created the famed detective series. When Stratemeyer didn't have nearly enough time to write out every story he had in mind, he hired a group of ghostwriters to piece the prolific series together—and collectively named them Carolyn Keene. The man behind one of America's most intolerant set of discriminatory laws was, in fact, a theater persona created by a white man, Thomas D. Rice, who used blackface to portray a bumbling trickster named Jim Crow.

Prohibition was a weird time in the country's history, but you probably wouldn't expect that one of the weird history facts on this list would be mass poison. Well maybe you would. Something often forgotten about Prohibition is that the government did not just try to dissuade drinking through fines and imprisonment, but by actually poisoning the industrial alcohol that was legal. Sure, this stuff was nasty already and not meant for drinking.

But when desperate drinkers made a habit of imbibing rubbing alcohol, officials began to "denature" it, adding iodine, chloroform, and even gasoline and kerosene to make it nauseating and even deadly. People still drank it, and an estimated 10,000 people were killed because of it. Of course CoV-2 has alcohol poisoning beat by miles.

These are 'light' examples of beliefs people hold because no one actually takes the time to find out the truth about anything. When I say 'no one' I mean the very vast majority of the human population. For example, those that have been vaccinated now 1, 2, 3 or 4 times in less than 2 years with an "Investigative Vaccine," still as yet unapproved (you may have heard Pfizer was approved but Comirnaty was approved and it's as yet unavailable in the US so Pfizer maintains complete and total immunity), that puts you in a category of a participant in a human medical experiment with unknown genetic, medical, short, medium, long-term and epigenetic consequences.

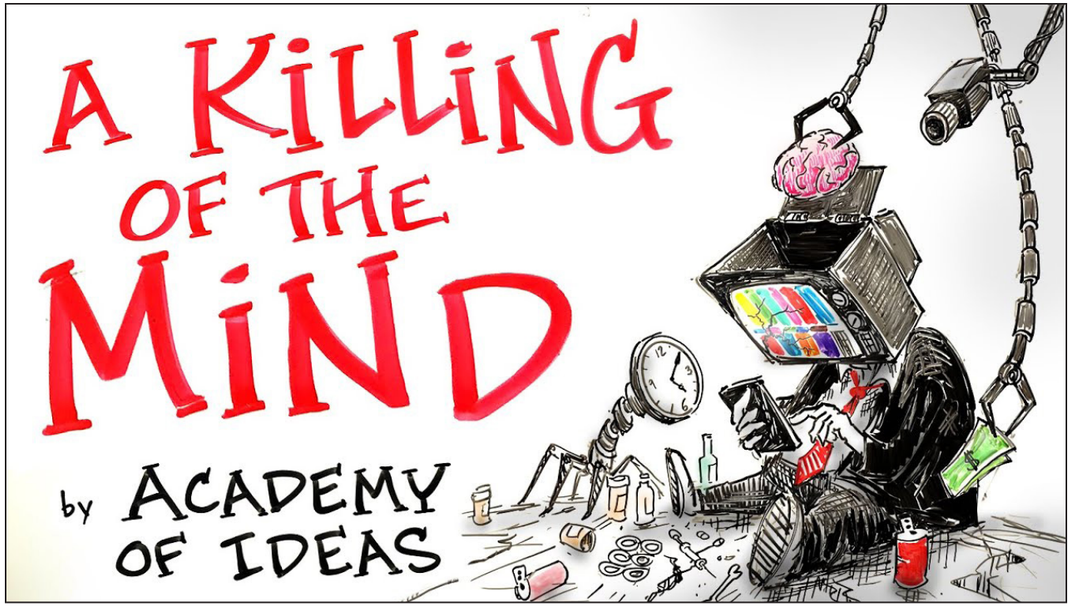
You voluntarily joined a global medical experiment which is, to me, unbelievable. And without informed consent of any relevant sort, not being told or knowing that all vaccines are contaminated, and these new mRNA injections especially so, and not really thinking about the fact that this chemical compound, ingredients still unknown, is similar to genetic modication in that it does, if even for a short few months (we still don't know for how long) modify your cellular mechanisms to produce a spike protein never before created by or in the human body. Moreover, the injection was rushed, only healthy people and small groups at that, were tested and pregnant women, immune compromised and the elderly were excluded from the Phase 1 and 2 tests. And even worse, the injection does not prevent you from getting CoV-2 and it does not prevent you from spreading it to others.

Although it is alleged to prevents severe infection and hospitalization, the UK Yellow Card System, the European Unions Eurovigilance System and the health care reporting systems in Ireland, Israel and several of the most vaccinated countries in the world show something terribly and depressingly different. After week 40-46 the vaccinated make up over 80% of those hospitalized and over 80% of those who have died while the unvaccinated, presumably using vitamin D, perhaps Ivermectin, Zinc, Magnesium, Vitamin C and a healthy diet (D3 is a hormone not a vitamin and every cell in your body has a D3 receptor and your body can't make vitamin C) are not getting sick and they aren't dying.

Perhaps this is because Dr. Ryan Cole, a pathologist, virologist, microbiologist and practicing doctor who's treated 100s of 1000s of patients is seeing a decrease in T cells, T8 cells if I remember correctly. He describes it as the opposite of AIDS, where the T4 cell count dropped off a cliff. Of course we don't know how long this cellular mechanism is severely depressed by the injection. This cell line protects the body from all sorts of infections, especially cancer. Dr. Cole has seen a 20% rise in uterine cancer since the injection program began and many other doctors are posting about odd cancers, people in remission who suddenly explode with cancer and die in days or weeks, or people who were cancer-free and just come down with cancers that are extraordinarily aggressive.

So the human species is not only gullible and poorly informed and generally has little time or even desire to inform themselves, they're also highly subject to and prone to accepting propaganda, especially if it's 24/7 in every mainstream media source in the country as it is now and has been for two years. The more outlandish the rhetoric the more acceptable it becomes. We actually believed a serial federal law violater who's paid some of the largest fraud fines in history would produce a safe and effective vaccine when they have ZERO liability. We're silly wabbits. See Mattias Desmet on Mass Formation Psychosis:

https://covidvaccinesideeffects.com/mattias-desmet-on-mass-formation-psychosis/

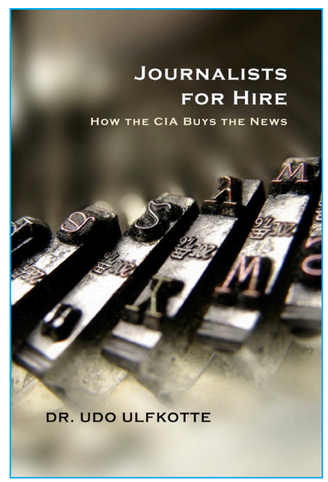


YES, WE HAVE NO BANANAS

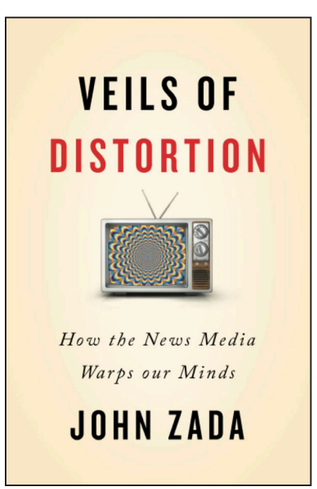
It's times like this that I'm happy to be 66-years-old and counting. Were I a young man and as difficult as this is to admit, knowing now what the future holds for the bulk of humanity could cause a mental breakdown or disconnect and thoughts of suicide. Then again, it might create the inhuman strength necessary to nudge the system into a more holistic and humanitarian network of political administrators who actually represent we, the people. Either way my current understanding of global events is that we're at war.

Indeed, the global elite have implemented a program that can only be described as genocidal. A type of eugenics designed to reduce fertility, cause the very early death of the elderly who are a financial drain on the system and finally, cause disease, disorder and death for years to come. Cancer in particular but also Shingles, autoimmune disorders, neurological problems, various viruses including CoV-2 and bacterial infections for those that chose to be injected.

When I was 4-years-old we bought our first black & white Tell-A-Vision but in those days, for a brief period until I reached my early teens anyway, the media remained relatively uncompromised. The system was, however, being tested by the intelligence agencies. With Operation Mockingbird and the Church Committee findings, the op went underground and expanded rapidly across the globe. Operation Mockingbird initially recruited leading American journalists into a propaganda network and influenced the operations of front groups/organizations as well. CIA support of front groups was exposed when a 1967 Ramparts magazine article reported that the National Student Association received funding from the CIA. In 1975, Church Committee Congressional investigations revealed Agency connections with journalists and civic groups by the likes of psychopaths Frank Wisner, Cord Meyer and Allen Dulles going back to the early 1940s.



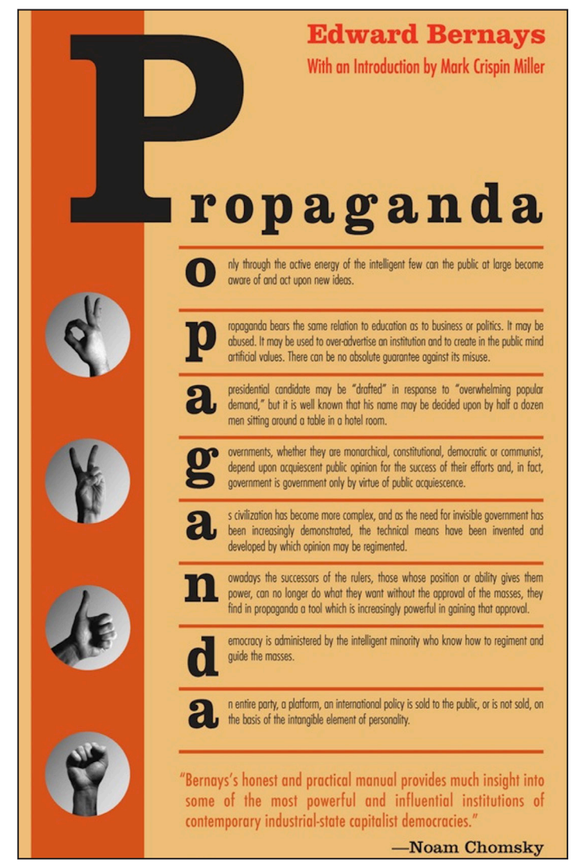
Today local churches, synagogies and mosques, civic groups, police departments, Black Lives Matter (BLM), the courts and judges, the entire political machinery and EVERY mainstream media source is fully compromised by intelligence agencies on a global scale. German Dr. Udo Ulfkotte wrote a book titled "Journalists For Hire: How The CIA Buys The News," except today this takes place on a global scale. Think Al Jazeera provides accurate "news"? ABC? CNN? MSNBC? The New York Times? The Washington Post? Every media resource and every organization or civic group that keeps our so-called and truly misnamed democracy alive and running down this current pathway to destrcuction and collapse of course, and I can't repeat this enough, is compromised by intelligence agencies worldwide. The "news" is 100% propaganda. Not 98%. Not 99.9%. The "news" spewing out of the screens in our homes from the Tell-A-Vision in 2022 is nothing more than propaganda, the Vision the



screen Tells us and which the majority of us believe. We're, by and large, an uneducated lot here in America. We're faultless in that regard since the system itself was designed both to dumb us down and then usurp our time competing with everyone else for economic resources—a job—which we call "Just Over Broke," (JOB) which is where most Americans are. Thus we have no time for self-education or research and we wouldn't even know how crucial it is to have basic understandings of physics, global and national finance, our bodies and our health, civics, the law, an understanding of political machinery let alone investigating in-depth the people we elect.

In "Propaganda," written and published in 1928 by Edward Bernays, Chapter 1 starts with the following paragraph:

"The conscious and intelligent manipulation of the organized habits and opinions of the masses is an important element in democratic society. Those who manipulate this unseen mechanism of society constitute an invisible government which is the true ruling power of our country. We are governed, our minds are molded, our ideas suggested, largely by men we have never heard of. This is a logical result of the way in which our democratic society is organized. Vast numbers of human beings must cooperate in this manner if they are to live together as a smoothly functioning society."



So yes, we're manipulated, propagandized and indoctrinated into the political or multinational corporate needs of the day, of the decade and of the future. Our minds are molded and we are de-educated and dumbed down.

POISON ONE

The first Poison in the The Great Global Poisoning is the poisoned education we get in the form of public schools and mainstream media sources. Between public school and media we're bombarded 24/7 with streams of agitprop, disinfo, fake news, hype, publicity, newspeak and bullshit.

So for the record, I don't give a flying fuck about anyone in Hollywood, anyone selling skin creams, CBD oil or pillows. I wear Wrangler jeans with holes worn through the knees and cheap t-shirts and I drive a 1999 Lexus.

I care about the truth. That's all. I believe it's something we all have a passion for, some more than others. As dumbed down as we are we seem to have sniffed out the CoV-2 scam with great accuity. Thank goodness for the doctors and lawyers that kept us informed.

CHAPTER TWO

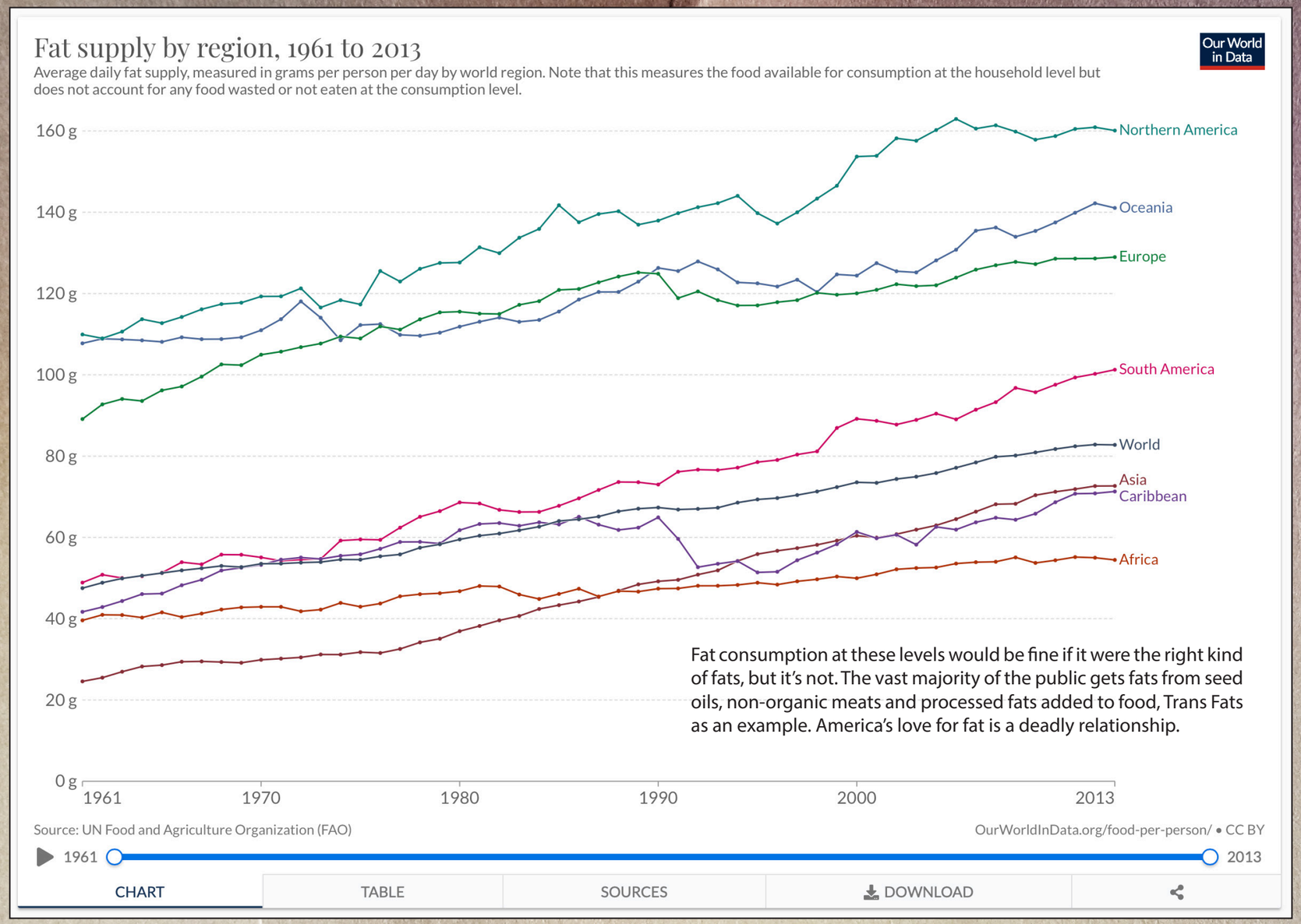
THE FOOD SUPPLY

IN THE BLACK AND WHITE IMAGES AT THE BEGINNING OF THIS eBOOK FROM THE EARLY 1900s NO ONE WAS OVERWEIGHT NOR WAS ANYONE OBESE.

Something Happened Betweeb 1900 And Today...

A Component Of The Great Global Poisoning

POISON TWO – THE FOOD SUPPLY



HUMAN FAT CONSUMPTION 1961 – 2013

NON-FOOD

These non-foods replete with a multitude of chemical additives are high protein, high fat, nutrition-free and highly processed, deadly non-foods. If we succumb to eating laboratory designed food that tastes just wonderful but has a constant negative effect on our gut microbiome and internal organs there will eventually be a price to pay in terms of poor health, disease and disorder. This is inevitable. This type of food, highly processed additive-rich food, significantly shortens our life-span while leading to disease and disorder at the same time.

McDonald's Big Mac

Hamburger

The Big Mac is a hamburger sold by the international fast food restaurant chain McDonald's. It was introduced in the Greater Pittsburgh area in 1967 and nationwide in 1968. It is one of the company's flagship products and signature dishes. Wikipedia

Nutrition Facts

McDonald's Big Mac

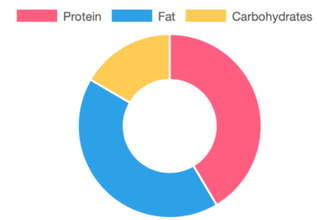
Sources include: USDA

Amount Per 1 item 7.6 oz (219 g)			
Calories 563			
			% Daily Value*
Total Fat 33 g			50%
Saturated fat 8 g			40%
Trans fat regulation 1.3 g			
Cholesterol 79 mg			26%
Sodium 1,007 mg			41%
Potassium 396 mg			11%
Total Carbohydrate 44 g			14%
Dietary fiber 3.5 g			14%
Sugar 9 g			
Protein 26 g			52%
Vitamin C	1%	Calcium	25%
Iron	24%	Cobalamin	31%
Magnesium	11%		

Chick-fil-A 6 piece Chicken Nuggets

Calories

There are 190 calories in 6 piece Chicken Nuggets from Chick-fil-A. Most of those calories come from protein (41%) and fat (42%).



Customize It

Size: 6 piece

Chick-fil-A 6 piece Chicken Nuggets

Nutrition Facts

Compare

Updated: 8/29/2020

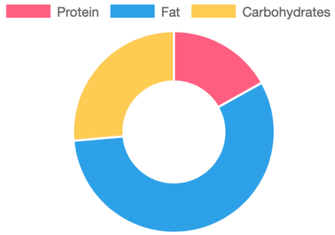
Serving Size	6 nuggets	
Calories	190	
Calories From Fat	81	
	Amount Per Serving	**% Daily Value***
Total Fat	9g	14%
Saturated Fat	2g	10%
Trans Fat	0.0g	
Cholesterol	65mg	22%
Sodium	910mg	38%
Total Carbohydrates	8g	3%
Dietary Fiber	0g	0%
Sugars	1g	
Protein	20g	40%
Vitamin A		?
Vitamin C		?
Calcium		?
Iron		?

*All percent daily value figures are based on a 2,000 calorie diet.

Burger King Whopper w/ Cheese

Calories

There are 740 calories in a Whopper w/ Cheese from Burger King. Most of those calories come from fat (57%).



Customize It

Choices: w/ Cheese

Burger King Whopper w/ Cheese

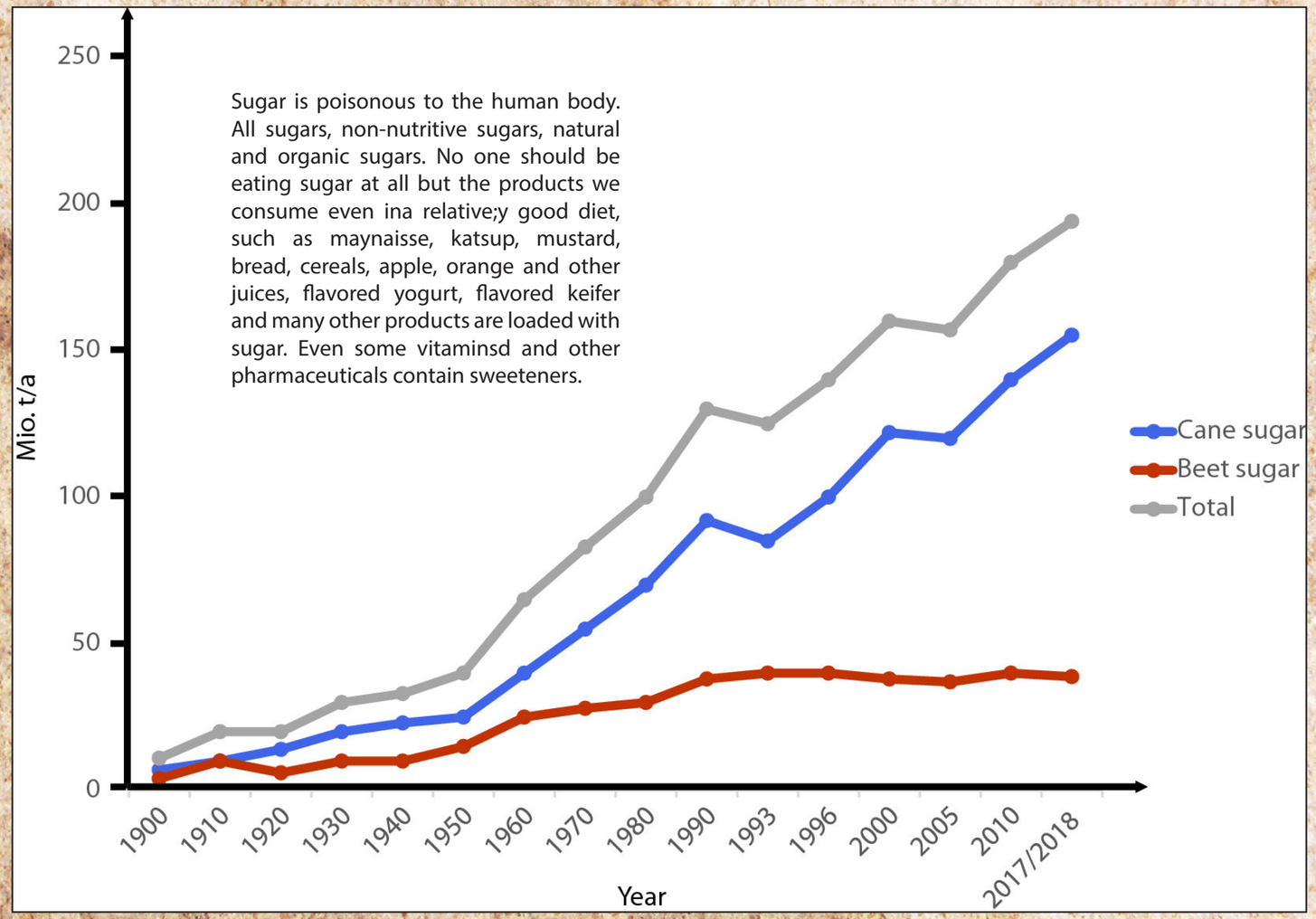
Nutrition Facts

Compare

Updated: 8/19/2020

Serving Size	1 burger	
Calories	740	
Calories From Fat	430	
	Amount Per Serving	**% Daily Value***
Total Fat	47g	72%
Saturated Fat	15.8g	79%
Trans Fat	0g	
Cholesterol	115mg	38%
Sodium	1339mg	56%
Total Carbohydrates	50g	17%
Dietary Fiber	2g	8%
Sugars	11g	
Protein	32g	64%
Vitamin A		?
Vitamin C		?
Calcium		?

GLOBAL SUGAR CONSUMPTION 1900 – 2018



FOOD ADDITIVES ARE CLASSIFIED BY THE FDA AS DRUGS

In "Food Drugs," (1,764 pages, 1,600 peer reviewed reports, by Jeff Prager, 2016, 43 Chapters covering over 100 food additives which are all described and classified as drugs by the FDA), I discuss, using peer review, the negative health effects of eating a conventional diet as opposed to an organic diet.

You can quickly access and read the peer review on over 100 food additives that in the long run, and some in the short run with immediacy like Aspartame, all cause disease and disorder.

Did you know that consuming one caramel colored soda per day predisposes you to atherosclerosis and more frightening, epigenetically it predisposes your offspring to atherosclerosis as well. Did you know that a conventional apple contains 15 or more pesticides inside and on the outside most of which cannot be washed off. Speaking about education, my significant others neurologist eats an apple a day religiously (according to the peer review an apple and a half is required daily) yet he eats conventional apples. It required 2 years and peppering this highly educated neurologist that he was consuming deadly pesticides every single day. Finally, after 2 years he was convinced and now buys organic apples. Whether the rest of his diet is organic is unknown and not likely and he's a neurologist performing brain surgeries. Doctors get a week or so on nutrition so don't expect them to know much.

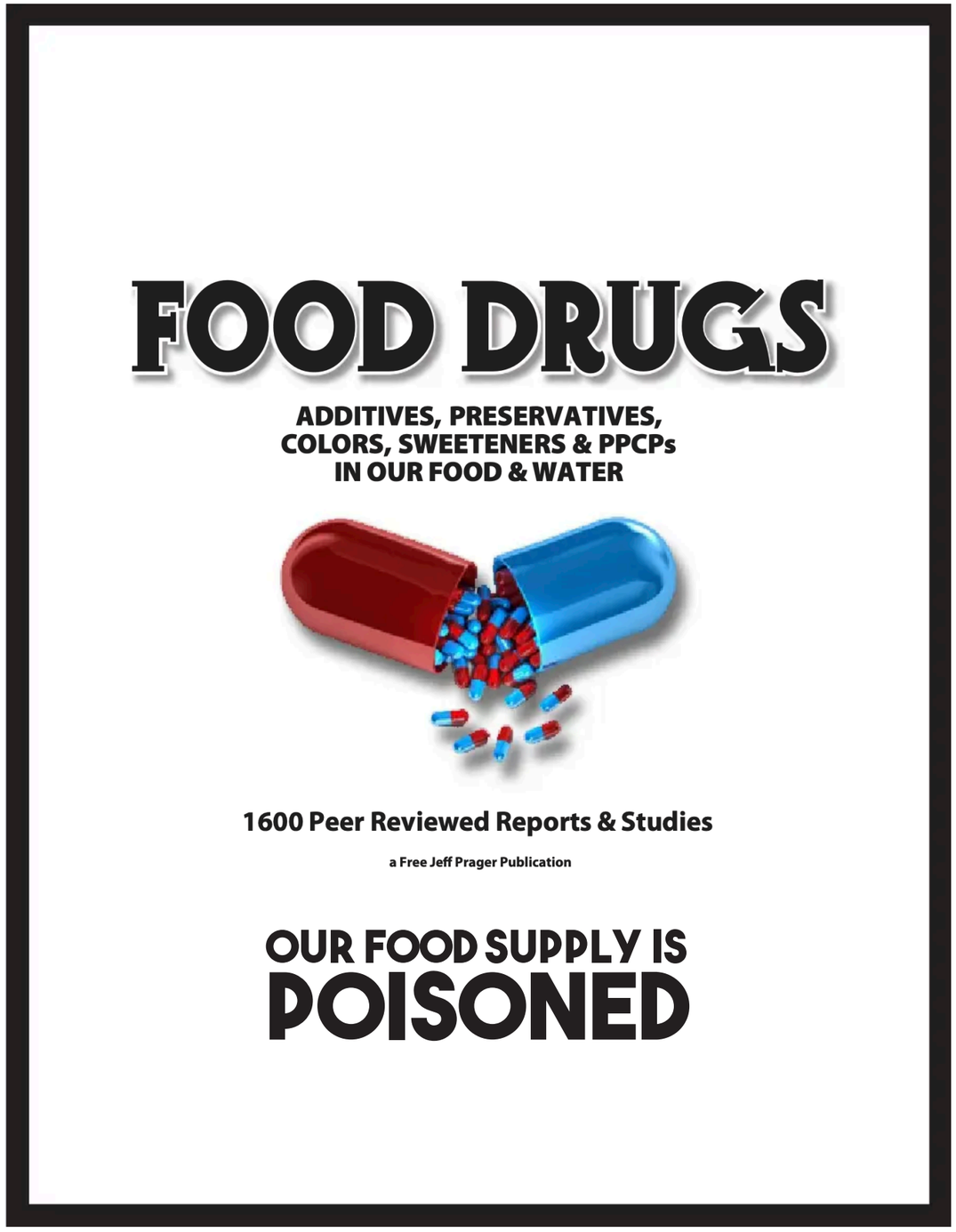
In 19630 there were very few food additives used in food production. Some thickeners and sweeteners in the form of raw, bleached sugar and molasses were literally all that was used. Then in 1960 came the first really enormous poisoning in the form of margarine sold to us as "healthier than butter" yet filled with Trans Fats. It required another 55 years for the scientific community to conclude that Trans Fats were directly related to heart attacks, were responsible for approximately 60,000 in one year and in 2015 the FDA "requested' that food manufacturers "voluntarily" remove Trans Fats from their food products. Most major manufacturers adhered to the requested changes although the FDA's formal request left a loophole big enough to drive a car through.

SUGAR

Food Drugs covers a number of sugars, all of them unhealthy. They're listed on the following page Even organic drinks from apple and orange juice to sodas and most others generally contain 20-28 grams of sugar. Needless to say, we drink tea, some coffee, a lot of water and organic milk. ALL sugars if consumed regularly will eventually cause metabolic disorder, the precursor to all diseases and disorders.

THE TRANS FAT LOOPHOLE

In 2018 the FDA requested that food distributors and retail sellers remove Trans Fats from their prod-



https://www.academia.edu/36606814/Food_Drugs

ARTIFICIAL SUGAR SUBSTITUTES
NON-NUTRITIVE SWEETENERS

Comparison of sweetness based on energy content is not meaningful because many artificial sweeteners have little or no food energy.

Name	Sweetness (by weight)	Trade name
Acesulfame potassium	200	Nutrinova
Advantame	20,000	
Alitame	2,000	
Aspartame	160–200	NutraSweet, Equal
Acesulfame	350	Twinsweet
Sodium cyclamate	30	Not Used In USA
Dulcin	250	
Glucin	300	
Neohesperidin dihydrochalcone	1,500	
Neotame	8,000	NutraSweet
P-4000	4,000	
Saccharin	300	Sweet'N Low
Sucralose	600	Kaltame, Splenda

ucts. Trans Fats, after 58 years of selling us on the benefits of Trans Fats—think margarine—were directly connected to heart attacks at such a high level that they needed to be removed from the food supply. However the food manufacturing industry with direct ties to Black Rock, Vanguard and State Street has their needs, their lobbyists and their connection to the pharmaceutical and health care industries so they managed to get a Loophole in the legislation that leaves Trans Fats in food but the consumer has no way of knowing what they're buying has heart killing Trans Fats. If you manufacture a product and a "serving" has 0.5 grams or less of Trans Fats you can legally write "No Trans Fats" on your packaging. A single serving of your average disease-causing, store-bought chocolate chip cookies is three cookies. Have you ever eaten just three cookies? I haven't eaten those types of cookies in 15 years but prior to that I could eat a half a box with a glass of milk and if I was home alone watching Tell-A-Vision I could easily finish the box off. Which means I'd be consuming several grams of Trans Fats, a heart damaging level, from a box that states right on the front, "No Trans Fats". More discouraging is that it took 60 almost years to feebly correct the problem when peer reviewed research spelled out the dangers decades ago.

ALL FOOD ADDITIVES ARE DEADLY DRUGS

We can drink a carbonated cola drink today but if we drink a Coke™ several times a week or every day for years we'll be predisposed to disease and disorder. When a manufacturer creates a food, and we'll use Coke™ here as an example but this applies to any food, that food is tested for human harms as a single serving consumed one time. So that Coke™ is safe to drink, once, yet regular, repeated consumption testing is rarely revealed by the manufacturers if studied at all. The manufacturers know this. It's

NATURAL SUGAR SUBSTITUTES
The sweetnesses and energy densities are in comparison to those of sucrose

Name	Sweetness by weight	Sweetness by food energy	Energy density
Brazzein	800		
Curculin	550		
Erythritol	0.7	14	0.05
Glycyrrhizin	50		
Glycerol	0.6	0.55	1.075
E422			
Inulin			
Isomalt	0.45–0.65	0.9–1.3	0.5
Lactitol	0.4	0.8	0.5
Mogroside mix	300		
Mabinlin	100		
Maltitol	0.9	1.7	0.525
Mannitol	0.5	1.2	0.4
Miraculin			

A protein that does not taste sweet by itself but modifies taste receptors to make sour things taste sweet temporarily is called Monatin and a naturally occurring sweetener isolated from the plant Sclerochiton ilicifolius called Monellin has a sweetness by weight of 3,000.

Osladin			
Pentadin	500		
Sorbitol	0.6	0.9	0.65
Stevia	250		
Tagatose	0.92	2.4	0.38
Thaumatin	2,000		
Xylitol	1.0	1.7	0.6

another leg of the Great Global Poisoning. The food and beverage industry is increasingly replacing sugar or corn syrup with artificial sweeteners in a range of products traditionally containing sugar. According to market analysts Mintel, a total of 3,920 products containing artificial sweeteners were launched in the U.S. between 2000 and 2005. In 2004 alone, 1,649 artificially sweetened products were launched. According to market analysts Freedonia, the United States artificial sweetener market is set to grow at around 8% per year to $189 million by 2012. Aspartame is currently the most popular artificial sweetener in the U.S. food industry, as the price has dropped significantly since the Monsanto Company patent expired in 1992. However, sucralose may soon replace it, as alternative processes to Tate & Lyle's patent seem to be emerging. According to Morgan Stanley, this can mean that the price of sucralose will drop by thirty percent. Alternative sweeteners are highly consumed in America. In 2003–2004, Americans two years of age and older consumed 585 grams (21 oz) per day of beverages and 375 grams (13 oz) per day of foods with caloric sweeteners. More than 66% of Americans consumed these beverages with alternative sweeteners and 82.3% of Americans consumed foods with added caloric sweeteners. On the other hand, 10.8% of Americans in 2003–2004 consumed non-caloric alternative

sweetener flavored beverages and 5.8% consumed non-caloric alternative sweetener flavored foods.

WEIGHT GAIN & ARTIFICIAL SWEETENERS

Animal studies have indicated that a sweet taste induces an insulin response in rats. The release of insulin causes blood sugar to be stored in tis- sues (including fat). In the case of a response to artificial sweeteners, even if blood sugar does not increase, there can be increased hypoglycemia or hyperinsulinemia and increased food intake the next time there is a meal. Rats given sweeteners have steadily increased calorie intake, increased body weight, and increased fatness. Furthermore, the natural responses to eating sugary foods—eating less at the next meal and using some of the extra calories to warm the body after the sugary meal—are gradually lost. A 2014 study by a collaboration of seventeen scientists from nine Israeli research institutes presented experimental evidence that artificial sweeteners may exacerbate, rather than prevent, metabolic disorders such as Type 2 diabetes. They reported that artificial sweeteners increase the blood sugar levels in both mice and humans by altering the composition and function of the gut flora. Excessive blood sugar levels are an early indicator of Type 2 diabetes and metabolic disease. Mice given drinking water supplemented with artificial sweetener (commercial formulations of saccharin, sucralose or aspartame) developed greater glucose in- tolerance than mice drinking pure water, or water with only sugar added. The effect occurred both in mice fed standard food and those on a high-fat diet. Changes in the composition of the gut flora were observed by sequencing a ribosomal RNA gene. When antibiotics were then used to kill off gut bacteria, the degree of glucose intolerance in mice fed either diet was restored to normal levels present before artificial sweetener was introduced. Human subjects were also studied. Gut bacteria from 381 non-diabetics averaging age 43 were analyzed, revealing differences in the gut bacteria between those subjects who habitually consumed artificial sweeteners and those who did not, as well as "markers" for diabetes, such as raised blood sugar levels and glucose intolerance. The researchers noted that the increase in human consumption of artificial sweeteners coincides with the modern epidemic incidence of obesity and diabetes. In a journal commentary, two researchers opined that artificial sweeteners "may contribute to, rather than alleviate, obesity-related metabolic conditions, by altering the composition and function of bacterial populations in the gut".

Alternative sweeteners are found in many products today due to their low or non-caloric characteristics. They're extremely inexpensive and because they work on the same brain receptors as cocaine, nicotine and methamphetamine these sweeteners are highly addictive. Increase your fruit intake and avoid all of these natural and artificial sweeteners.

ATTRACTIVE COLORS

Food colorings cause Learning Disabilities, ADHD and other behavioral problems. ALL diet sodas cause weight gain. ALL sugars, and there are over a dozen used in our food supply, cause disease and disorder when consumed regularly in a diet. Think about the food deserts in communities of color where the only food available is in a small corner grocery store. Chips, dip, cookies, packaged burgers, colored drinks, spam, hot dogs, canned foods and foods in plastic containers which leach up to 7 different Bisphenol analogues all of which are Estrogen Disruptors causing fertility problems, sexual problems and disease and disorder in other organs. See "Food Drugs" linked on the previous page. It's a free download as always with a wealth of invaluable information that every food consumer on earth should know, or die early eating the deadly foods the major manufacturers laboratory-create for us.

EXCERPTS FROM THE BOOK · FOOD DRUGS ·

https://www.academia.edu/36606814/Food_Drugs

"Histological findings showed that Aspartame 2 and Aspartame 3 caused cyto-architectural changes such as degeneration, monocytes infiltration and necrotic lesions in brain, kidney and liver of rats."
Journal Of Basic Clinical And Physiological Pharmacology • January 2016
http://www.ncbi.nlm.nih.gov/pubmed/26247507

"The findings suggest that Noncaloric Artificial Sweeteners disturb the circadian sleep-wake cycle and cause behavioral inactivity in mice."
Nutrition • March 2016, Moderately high doses of the artificial sweetener saccharin potentially induce sleep disorders in mice
http://www.ncbi.nlm.nih.gov/pubmed/27189909

"There is a striking congruence between results from animal research and a number of large-scale, long-term observational studies in humans, in finding significantly increased weight gain, adiposity, incidence of obesity, cardiometabolic risk, and even total mortality among individuals with chronic, daily exposure to low-calorie sweeteners - and these results are troubling."
Physiology And Behavior • April 2016
Low-calorie sweetener use and energy balance:
Results from experimental studies in animals, and large-scale prospective studies in humans
http://www.ncbi.nlm.nih.gov/pubmed/27129676

"The results of this study demonstrated that carbonated soft drinks induced oxidative stress and altered the expression of certain genes that are associated with the brain activity and thus should be consumed with caution."
Molecular Medicine Reports • April 2016
Carbonated soft drinks induce oxidative stress and alter the expression of certain genes in the brains of Wistar rats
http://www.ncbi.nlm.nih.gov/pubmed/26936207

"These findings highlight the potential for steviol to act as a potential endocrine disruptor."
Molecular And Cellular Endocrinology • May 2016
In vitro bioassay investigations of the endocrine disrupting potential of steviol glycosides and their metabolite steviol, components of the natural sweetener Stevia
http://www.ncbi.nlm.nih.gov/pubmed/26965840

Current Opinions In Behavioral Science • June 2016

Not-so-healthy sugar substitutes?

"Replacing sugar-sweetened beverages with diet soft drinks containing sugar substitutes that provide few or no calories has been suggested as one strategy for promoting improved public health outcomes. However, current scientific evidence indicates that routine consumption of beverages with non-nutritive sweeteners not only fails to prevent disease, but is associated with increases in risks for the same health outcomes associated with sugar-sweetened beverages, including type 2 diabetes, cardiovascular disease, hypertension and stroke. Results from pre-clinical studies have provided plausible biological mechanisms that could promote these counterintuitive negative health effects of artificial sweeteners. Taken together, scientific studies currently indicate that public health will be improved by reducing intake of all sweeteners, both caloric and non-caloric."

http://www.ncbi.nlm.nih.gov/pubmed/27135048

"Our findings suggest that high levels of sugar-sweetened carbonated beverage consumption are associated with a higher prevalence and degree of coronary artery calcium in asymptomatic adults without a history of cardiovascular disease, cancer, or diabetes."

American Heart Journal • July 2016

http://www.ncbi.nlm.nih.gov/pubmed/27297845

"These results suggest that aspartame and saccharin could be toxic to the human circulation system as well as embryonic development via impairment of lipoprotein function."

Cardiovascular Toxicology • January 2015

http://www.ncbi.nlm.nih.gov/pubmed/25142179

"While they are considered safe, there is increasing controversy regarding their potential ability to promote metabolic derangements in some humans. We recently demonstrated that NAS consumption could induce glucose intolerance in mice and distinct human subsets ..."

Gut Microbes • April 2015

Non-caloric artificial sweeteners and the microbiome: findings and challenges

http://www.ncbi.nlm.nih.gov/pubmed/25831243

"These results provide mechanistic support for the epidemiologic evidence that the risk of cardiovascular mortality is positively associated with consumption of increasing amounts of added sugars."

American Journal Of Clinical Nutrition • June 2015

A dose-response study of consuming high-fructose corn syrup-sweetened beverages on lipid/lipoprotein risk factors for cardiovascular disease in young adults

http://www.ncbi.nlm.nih.gov/pubmed/25904601

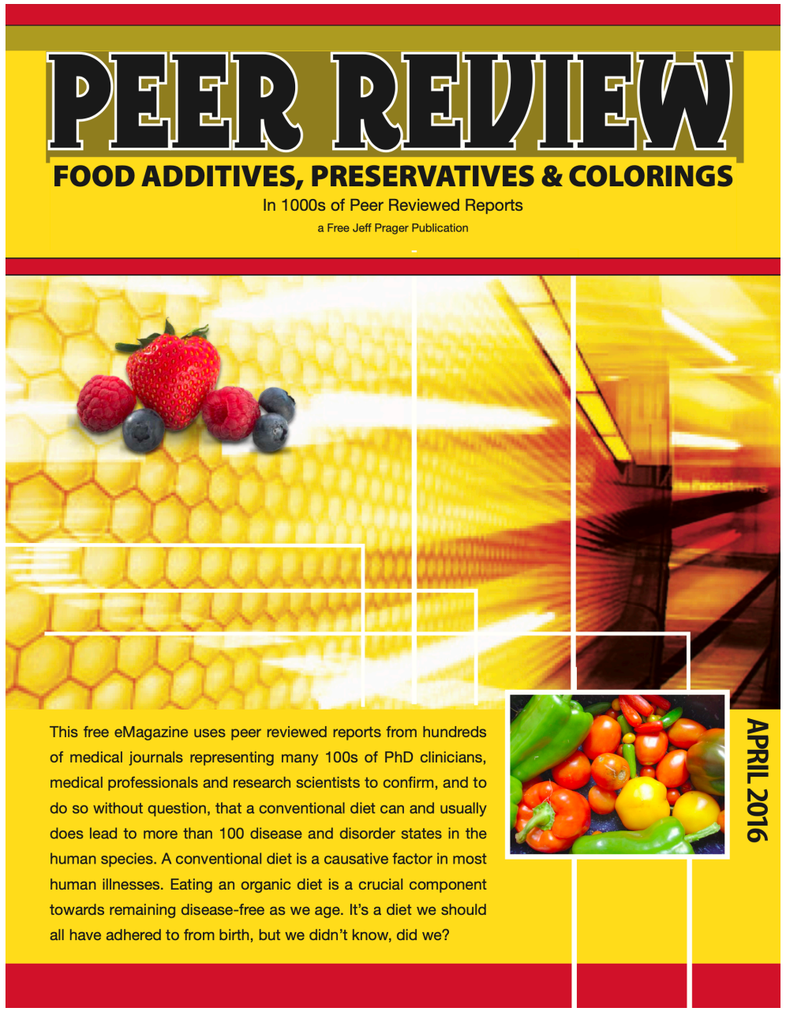
BMJ • August 2015

Fetal exposure to dietary carcinogens and risk of childhood cancer: what the NewGeneris project tells us-Key messages:

• An estimated 175,000 new cancer cases occur globally among children aged 0-14. The fetus is exposed

to dietary carcinogens consumed by the mother during pregnancy; Exposure of the fetus causes perturbations of the molecular pathways linked with markers of carcinogenicity; Genetic polymorphisms + male sex may predispose to susceptibility to carcinogen exposure before birth; This increases risks of developing leukemia, in particular; Fetal exposure to dietary carcinogens may also affect birth weight and cause immune suppression.

http://www.bmj.com/content/351/bmj.h4501.long



Artificial Sweeteners: https://www.academia.edu/56924277/Artificial_Sweeteners
Foof Coloring: https://www.academia.edu/56921389/Food_Colors
Bisphenol Analogues: https://www.academia.edu/56920182/Bisphenol_A

HOW INDUSTRIAL SEED OILS ARE MAKING US SICK

by Chris Kresser, M.S.
Published on February 19, 2019
Fact Checked

Experts have presented several dietary culprits as possible explanations for the rapidly rising rates of chronic disease in industrialized nations, including sugar and saturated fat. However, one commonly consumed food found in the diets of millions has received surprisingly little attention —industrial seed oils.

Contrary to what we've been told, industrial seed oils such as soybean, canola, and corn oils are not "heart healthy" or otherwise beneficial for our bodies and brains; in fact, plenty of research indicates that these oils are making us sick. Read on to learn about the history of the industrial seed oil industry, the adverse health effects of consuming these oils, and what dietary fats you should eat instead.

What Are Industrial Seed Oils?

Unlike traditional fats such as olive oil, coconut oil, butter, ghee, and lard, industrial seed oils are a very recent addition to the human diet.

In fact, industrial seed oils, the highly processed oils extracted from soybeans, corn, rapeseed (the source of canola oil), cottonseed, and safflower seeds, were only introduced into the American diet in the early 1900s. How, then, did these oils come to occupy such an influential position not only in the Standard American Diet but in ""Westernized" diets around the world? The story is strange indeed.

Industrial seed oils were originally used in the soapmaking process. So how did these industrial by-products end up on our plates?

In 1870s Cincinnati, two soapmakers—William Procter and James Gamble—decided to enter into business together. While soap had historically been made from rendered pork fat, Procter and Gamble were an innovative pair and decided to create a new type of soap from vegetable oils. Around the same time, oil was discovered in Pennsylvania; it quickly displaced cottonseed oil, which had long been used for lighting, as a fuel source. Cottonseed oil was consigned to the status of "toxic waste" until the enterprising Procter & Gamble realized that all that unwanted cottonseed oil could be used to produce soap. But there was another plus that appealed to their business sensibilities: the oil could be chemically altered via a process called "hydrogenation" to turn it into a solid cooking fat that resembled lard. That's how an oil formerly classified as "toxic waste" became an integral part of the American diet when Crisco was introduced to the market in the early 1900s. (1)

Soon, other vegetable oils followed. Soybeans were introduced to the United States in the 1930s, and by the 1950s, it had become the most popular vegetable oil in the country. Canola, corn, and safflower

oils followed shortly after that. The low cost of these cooking oils, combined with strategic marketing on the part of the oil manufacturers, made them wildly popular in American kitchens even though their use was unprecedented in human history.

Our modern lifestyle is wreaking havoc on our health. Whether it's our stress levels, our lack of sleep and movement, or nutrient-poor diets, many of us are living in a way that negatively affects our health. The Industrial Revolution brought us incredible efficiencies in production, but that has had a negative impact on the general quality of much of the food available to us. The price that we pay for lower-quality food, including the rise in industrial seed oils, is greater inflammation and incidence of chronic disease.

Many dietary factors may contribute to inflammation. They include consumption of industrial seed oils, but also consumption of gluten and excess refined sugar. The effect of these foods on our health can vary from low energy and brain fog to flare-ups in debilitating chronic diseases like multiple sclerosis and greater challenges in managing diabetes.

How Are Industrial Seed Oils Made?

The general process used to create industrial seed oils is anything but natural. The oils extracted from soybeans, corn, cottonseed, safflower seeds, and rapeseeds must be refined, bleached, and deodorized before they are suitable for human consumption.

1. First, seeds are gathered from the soy, corn, cotton, safflower, and rapeseed plants.

2. Next, the seeds are heated to extremely high temperatures; this causes the unsaturated fatty acids in the seeds to oxidize, creating byproducts that are harmful to human and animal health.

3. The seeds are then processed with a petroleum-based solvent, such as hexane, to maximize the amount of oil extracted from them.

4. Next, industrial seed oil manufacturers use chemicals to deodorize the oils, which have a very off-putting smell once extracted. The deodorization process produces trans fats, which are well known to be quite harmful to human health.

5. Finally, more chemicals are added to improve the color of the industrial seed oils.

Altogether, industrial seed oil processing creates an energy-dense, nutrient-poor oil that contains chemical residues, trans fats, and oxidized byproducts.

From Toxic Waste to "Heart Healthy": The History of Seed Oils

How did industrial seed oils go from being classified as "toxic waste" to enjoying the title of "heart healthy" fats? As first documented by Nina Teicholz, in her book, The Big Fat Surprise, the story involves a scandalous combination of donations to medical organizations, dubious scientific research, and unsubstantiated marketing claims.

In the late 1940s, a small group of cardiologists who were members of the still somewhat new American Heart Association received a $1.5 million donation from Procter & Gamble; thanks to this generous infusion of cash from the makers of Crisco, the AHA now had sufficient funding to grow its national profile as a physician's organization dedicated to heart health. It also were quick to endorse industrial seed oils, more kindly referred to by now as "vegetable oils," as a healthier alternative to traditional animal fats.

Around the same time, an ambitious physiologist and researcher named Ancel Keys introduced his diet–lipid hypothesis, in which he presented data that seemed to suggest a link between saturated fat and cholesterol intake and heart disease. Since animal fats are a rich source of dietary saturated fat and cholesterol, they quickly became the object of his derision. Citing animal fats as "unhealthy," Keys instead recommended the consumption of polyunsaturated fatty acids (PUFAs), which preliminary research had associated with reductions in cholesterol and the risk of heart disease. Keys' conclusions were in line with the industrial seed oil industry's motives—to get people to eat more seed oils! Soon, ads for "heart healthy" margarine (a solid form of vegetable oil) and other seed oils became commonplace, and healthy, traditional fats were all but forgotten.

While Keys' lipid hypothesis is now understood to be based upon faulty research, his ideas nonetheless permeated the medical community. (2) Soon, many medical organizations, including the National Cholesterol Education Program and the National Institutes of Health, had hopped aboard the anti-animal fat train, echoing the AHA's advice that people should avoid animal fat and instead consume polyunsaturated vegetable oils such as Crisco and other shortenings, soybean oil, and corn oil. This confluence of events and mutual interests led to the sweeping replacement of natural dietary fats such as lard and butter with unsaturated industrial seed oils, indelibly changing the shape of the American (and eventually, the global) food landscape.

Only in recent years has the validity of the health claims associated with industrial seed oils been seriously called into question. A 2014 meta-analysis found no benefit to overall health from reducing saturated fats or increasing PUFAs from vegetable oils. (3) Furthermore, the evidence does not support current dietary guidelines urging people to replace saturated fats with vegetable oils. (4, 5)

In fact, a growing body of research indicates that the consumption of industrial seed oils has significant adverse effects on our health.

Six Reasons Industrial Seed Oils Are Terrible for Your Health

There are six main problems with industrial seed oils:

1. The consumption of industrial seed oils represents an evolutionary mismatch.
2. Eating industrial seed oils raises our omega-6-to-omega-3 fatty acid ratios, with significant consequences for our health.
3. Industrial seed oils are unstable and oxidize easily.
4. They contain harmful additives.
5. They're derived from genetically modified crops.
6. When industrial seed oils are repeatedly heated, even more toxic byproducts are created.

1. They're an Evolutionary Mismatch

Evolutionary mismatch, a mismatch between our genes and the modern environment, is the primary driver of chronic disease today. In few areas is evolutionary mismatch more apparent than in the Standard American Diet; the high amounts of refined carbohydrates and calories of this diet work against our ancestral biology, causing us to become overweight and sick.

Industrial seed oils, like refined sugar and excess calories, also represent an evolutionary mismatch. Up until the 1900s, humans did not consume industrial seed oils. From 1970 to 2000, the average consumption of one industrial seed oil, soybean oil, skyrocketed from a mere four pounds per person per year to a whopping 26 pounds per person per year! (6)

Today, linoleic acid, the primary fatty acid in industrial seed oils, accounts for 8 percent of our total calorie intake; in our hunter–gatherer ancestors, it accounted for only 1 to 3 percent of total calories. (7) Researchers who are wise on the topic of evolutionary mismatch posit that our bodies just aren't designed to handle such a massive consumption of linoleic acid. As a result, our high levels of industrial seed oil consumption are causing our health to suffer.

2. They Have an Imbalanced Omega-6-to-Omega-3 Ratio

Essential fatty acids are polyunsaturated fats that we humans cannot make ourselves and must, therefore, consume in our diets. They come in two varieties: omega-6 fatty acids and omega-3 fatty acids. Upon consumption, omega-6 fatty acids give rise to arachidonic acid and potent metabolites that are primarily pro-inflammatory in nature, including prostaglandin E2 and leukotriene B4. Omega-3 fatty acids such as ALA, EPA, and DHA, on the other hand, give rise to anti-inflammatory derivatives.

A delicate balance between omega-6 and omega-3 fatty acids must be maintained in the body to promote optimal health. The ancestral ratio of omega-6 to omega-3 is 1 to 1. Westernized diets, however, greatly exceed this balance, with omega-6 to omega-3 ratios in the range of 10 to 1 to 20 to 1. (8) A high intake of omega-6 fatty acids, combined with low omega-3 intake, leads to an imbalance in pro-inflammatory and anti-inflammatory mediators. This imbalance produces a state of chronic inflammation that contributes to numerous chronic disease processes.

Industrial seed oils are perhaps the most significant contributor to the imbalanced omega-6-to-omega-3 ratio characteristic of Westernized diets and thus play a significant role in chronic inflammatory diseases.

3. Industrial Seed Oils Are Highly Unstable

The polyunsaturated fatty acids in industrial seed oils are highly unstable and oxidize easily upon exposure to heat, light, and chemical inputs. When industrial seed oils are exposed to these factors, two harmful substances—trans fats and lipid peroxides—are created. Trans fats are well known for their role in the development of cardiovascular disease and type 2 diabetes; in fact, for every 2 percent increase in calories from trans fats, your risk of heart disease is nearly doubled! (9) Lipid peroxides, on the other hand, are toxic byproducts that damage DNA, proteins, and membrane lipids throughout the body. The accumulation of lipid peroxides in the body promotes aging and the development of chronic diseases.

4. They're Full of Additives

Because the fatty acids in industrial seed oils are so unstable, synthetic antioxidants are added in an attempt to prevent oxidation and rancidity. Unfortunately, these synthetic antioxidants come with problems of their own. The synthetic antioxidants BHA, BHT, and TBHQ have endocrine-disrupting, carcinogenic, and immune-disrupting effects. (10, 11, 12, 13) Also, TBHQ has been found to increase the IgE (immunoglobulin E) response to food allergens, setting off a release of antibodies, and may thereby promote the development of food allergies. (14)

5. Industrial Seed Oils Come from Genetically Modified Plants

In addition to being nutrient poor and full of unsavory chemicals and toxic byproducts, the overwhelming majority of industrial seed oils are derived from genetically modified plants. In fact, the plants used to make industrial seed oils comprise the top genetically modified crops—corn, soy, cotton, and rapeseed. In the United States, 88 percent of corn, 93 percent of soy, 94 percent of cotton, and 93 percent of rapeseed crops are genetically modified. (15, 16, 17) Few studies have been conducted on the long-term safety of consuming genetically modified foods, giving us yet another reason to avoid consuming industrial seed oils.

6. They're Often Repeatedly Heated (And Extra Toxic)

As if industrial seed oils weren't already bad enough for our health, restaurants and home cooks frequently engage in a practice that further magnifies their harmful effects—they repeatedly heat industrial seed oils. While the habit of reusing industrial seed oils over and over (typically in large deep-fryers, in the case of restaurants) reduces costs, it results in an oil that is chock-full of toxic byproducts, as we know from extensive reporting by Teicholz in her book.

The repeated heating of industrial seed oils depletes vitamin E, a natural antioxidant, while inducing the formation of free radicals that cause oxidative stress and damage DNA, proteins, and lipids throughout the body. These harmful effects explain why repeatedly heated industrial seed oils are associated with high blood pressure, heart disease, and intestinal and liver damage. (18, 19, 20)

How So-Called "Healthy" Seed Oils Are Making Us Sick

Contrary to what many health organizations have been telling us for years, industrial seed oils are not healthy foods. Rather, their consumption is associated with a variety of health problems.

Asthma

Eating industrial seed oils may increase your risk of asthma. A high intake of omega-6 fatty acids, such as those present in industrial seed oils, relative to omega-3 fatty acids increases pro-inflammatory mediators associated with asthma. (21)

Autoimmune Disease

Industrial seed oils may promote autoimmunity by raising the body's omega-6-to-omega-3 ratio and by increasing oxidative stress and chronic inflammation. (22)

Cognition and Mental Health

Industrial seed oils are particularly harmful to the brain. A high omega-6-to-omega-3 fatty acid ratio predisposes individuals to depression, anxiety, cognitive decline, and dementia. (23, 24) Canola oil consumption is linked to worsened memory and impaired learning ability in Alzheimer's disease. (25) Trans fats, which end up in industrial seed oils unintentionally, as a consequence of chemical and heat processing, and intentionally, during the process of hydrogenation, are associated with increased risks of dementia and, interestingly, aggression. (26, 27)

Diabetes and Obesity

Are industrial seed oils making us overweight and diabetic? The science certainly seems to suggest so. Research in mice indicates that consuming high levels of linoleic acid, the primary fatty acid in industrial seed oils, alters neurotransmitter signaling, ultimately increasing food consumption and fat mass. (28) In mice, a diet high in soybean oil induces obesity, insulin resistance, diabetes, and fatty liver disease. (29, 30) Animal research also suggests that canola oil may cause insulin resistance. (31)

Human studies also point to the effects of industrial seed oils on diabetes and obesity, especially in children. A maternal diet high in omega-6s compared to omega-3s is associated with an increased risk of obesity, a major risk factor for diabetes, in children. (32) A childhood diet with a high omega-6-to-omega-3 ratio may also lead to insulin resistance, prediabetes, and obesity in adulthood. (33, 34)

Heart Disease

Contrary to what the AHA has been telling us for the past 100 years, industrial seed oils are not good for our hearts! In fact, oxidized fatty acids from industrial seed oils appear to play a pivotal role in the development of cardiovascular disease. Researcher James DiNicolantonio has presented a theory called the "oxidized linoleic acid theory of coronary heart disease" that links the consumption of linoleic acid-rich industrial seed oils with cardiovascular disease. (35) His theory goes like this:

- Dietary linoleic acid from industrial seed oils is incorporated into blood lipoproteins.
- The instability of linoleic acid increases the likelihood of lipoproteins oxidizing.
- Oxidized lipoproteins are unable to be recognized by their respective receptors throughout the body and instead activate macrophages, which initiate foam cell formation, atherosclerosis, and cardiovascular disease.

Industrial seed oils also contribute to cardiovascular disease by increasing the omega-6-to-omega-3 ratio. A high omega-6-to-omega-3 ratio is an established risk factor for cardiovascular disease because excess omega-6 has pro-inflammatory and prothrombotic effects on the vascular system. (36) Finally, another emerging theory suggests that canola and soybean oils may contribute to cardiovascular disease by inhibiting processes involving vitamin K2, which is essential for heart health. (37)

IBS and IBD

Research suggests that industrial seed oils may harm gut health, contributing to conditions such as irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD). In one study, mice fed a diet high in omega-6 fatty acids from corn oil experienced increases in pro-inflammatory gut bacteria; these

changes favor the development of gastrointestinal pathologies, among many other chronic diseases. (38)

Human studies also suggest a link between industrial seed oils and GI conditions. Women with IBS demonstrate significantly elevated levels of arachidonic acid, an omega-6 fatty acid abundant in industrial seed oils, and pro-inflammatory PUFA metabolites, compared to healthy controls. (39) Furthermore, an imbalance between omega-6 and omega-3 fatty acids is correlated with IBD. (40) These findings suggest that consuming high levels of omega-6 fatty acids alters the gut microbiota and promotes gastrointestinal inflammation, thereby contributing to the development of IBS and IBD. Since industrial seed oils are the most abundant source of omega-6 fatty acids in the Standard American Diet, it stands to reason that people with IBS and IBD should avoid these oils and instead consume natural fats from olive oil, coconut oil, wild seafood, nuts and seeds, and healthy animal fats.

Inflammation

A high omega-6 intake from industrial seed oils promotes chronic inflammation. The consumption of both partially hydrogenated industrial seed oils and non-hydrogenated soybean oil is associated with elevations in C-reactive protein, TNF-alpha, and interleukin-6, which are biomarkers of systemic inflammation. (41, 42)

Infertility

Approximately 9 percent of men and 11 percent of women in the United States have impaired fertility. (43) While many factors are contributing to soaring rates of infertility, one overlooked cause may be our high consumption of industrial seed oils. Infertile men exhibit a significantly elevated omega-6-to-omega-3 fatty acid ratio compared to fertile men. (44) In animal studies of female mammals, a high intake of omega-6 fatty acids causes poor reproductive outcomes. (45)

Macular Degeneration

Industrial seed oils may be harmful to the eyes. A high intake of omega-6 fatty acids increases the risk of age-related macular degeneration, an eye disease that causes progressive vision loss and eventual blindness. (46) Imbalanced levels of omega-6 consumption may contribute to eye problems by promoting inflammation and by displacing the omega-3 fatty acid DHA, which is crucial for vision.

Osteoarthritis

In individuals with osteoarthritis, there's an association between omega-6 fatty acids and the presence of synovitis, an inflammation of the membrane that lines joint cavities. Conversely, an inverse relationship has been found between omega-3 fatty acid consumption and cartilage loss in the knee as indicated by MRI. (47) Since industrial seed oils contribute a large amount of omega-6 fatty acids to the diet, avoiding these oils may be beneficial for those with or at risk of osteoarthritis.

How to Avoid Industrial Seed Oils

The first step in banishing industrial seed oils from your diet is to clean out your pantry and get rid of any bottles of canola, corn, cottonseed, soybean, sunflower, safflower, or peanut oils you have in your

kitchen. These oils are not "healthy," despite misleading claims that may appear on their labels.

Step number 2 is to stop eating processed foods, as these are a significant source of industrial seed oils. Also try to reduce your consumption of restaurant foods, which are typically cooked in repeatedly heated industrial seed oils.

Finally, step 3 is to avoid eating grain-fed meat, to the extent you can. There is evidence to suggest that grain-fed animals may accumulate the toxic byproducts of industrial seed oils, which comprise a large part of their diet, in their meat; when you eat this meat, you too may become a repository for lipid peroxides and other harmful byproducts of industrial seed oils.

When It Comes to Omega-6, Quality Matters

While industrial seed oils are high in omega-6, there are also plenty of whole, fresh foods that naturally contain omega-6 fatty acids, including nuts, poultry, and avocados. When consumed as part of a balanced, real-food diet containing abundant omega-3 fatty acids from seafood, omega-6 from whole foods is not a problem. These whole-food sources of omega-6 fatty acids include nutrients that protect omega-6 from becoming oxidized, and they are also not exposed to the chemicals and industrial treatments that make industrial seed oils so toxic.

Six Fats You Should Be Cooking With

Now that you've eliminated industrial seed oils from your kitchen, what fats should you use instead? Look to the types of fats our ancestors have used for thousands of years—olive oil, coconut oil, and animal fats are natural, wholesome sources of fatty acids for nourishing our bodies.

Here's a quick breakdown of the types of fats I recommend.

1. Extra Virgin Olive Oil

Olive oil has been a part of the human diet for literally thousands of years. It is rich in the antioxidant vitamin E and polyphenols with a wide range of health-promoting properties, including cardioprotective and anti-diabetic properties. One tablespoon of olive oil contains 1.9 grams of saturated fatty acids (SFAs), 9.8 grams of monounsaturated fatty acids (MUFAs), and 1.4 grams of PUFAs.

2. Coconut Oil

Coconut oil is a superfood with many health-promoting properties. It contains medium-chain triglycerides such as lauric acid, a fatty acid that is readily used by the body for energy and has antifungal, antibacterial, and antiviral properties. Coconut oil contains 90 percent saturated fat, which makes it very heat stable.

3. Butter and Ghee

If you tolerate dairy, butter and ghee may be great additions to your diet. Butter and ghee from grass-fed animals contain conjugated linoleic acid, a type of fatty acid with anti-cancer and metabolic health-promoting properties. While butter may contain traces of milk proteins, ghee is usually a safe option even for dairy-sensitive people because all milk constituents are removed in its creation. Both butter and ghee are comprised mainly of saturated fat. One tablespoon of butter contains 7.2 grams of SFAs, 2.9 grams of MUFAs and 0.4 grams of PUFAs, while one tablespoon of ghee contains 8 grams of SFAs, 3.7 grams of MUFAs, and 0.5 grams of PUFAs.

4. Pastured Lard

This may come as a surprise, but it turns out that lard is mostly composed of mono-unsaturated fat, the type of fat in olive oil that has been promoted as "heart healthy" by the conventional medical community for decades! Lard, the fat rendered from pigs, is high in saturated fat and is a good substitute for butter in recipes if you can't tolerate dairy.

One tablespoon of lard contains 5 grams of SFAs, 6 grams of MUFAs, and 1.6 grams of PUFAs. Lard also contains 500 to 1000 IU of vitamin D per serving, depending on what the pigs ate and whether they were exposed to sunlight. If you are interested in getting a nice dose of vitamin D from lard, choose lard produced from pastured pigs that have been allowed to roam outdoors.

5. Pastured Tallow

Tallow is fat rendered from meat other than pork, such as beef and bison. It has a high smoke point that makes it great for high-heat cooking. In fact, most restaurants used tallow in their deep fryers until the 1970s, when the industrial seed oil industry usurped the position of traditional fats in our diets. Tallow contains 6.4 grams of SFAs, 5.3 grams of MUFAs, and 0.5 grams of PUFAs in a one-tablespoon serving.

6. Duck Fat

Duck fat is a delicious traditional cooking oil that also has great versatility. It has a high smoke point, making it great for high-heat cooking, but a delicate flavor and similar fatty acid profile to olive oil. One tablespoon of duck fat has 4 grams of SFAs, 6 grams of MUFAs, and 1.6 grams of PUFAs. Try using pastured duck fat for roasting potatoes—you'll never want to use anything else for cooking potatoes once you've given it a try!

Finally, be sure to incorporate plenty of healthy fats from whole foods into your diet. Soaked and sprouted nuts, avocado, coconut, wild-caught fatty fish, grass-fed meats, and wild game are all excellent sources of healthy fats and can be incorporated into your diet in countless ways. Note: When you're choosing animal fats for cooking, remember to choose pasture-raised sources because conventional alternatives are significantly higher in omega-6s.

If optimal health is your goal, then industrial seed oils have no place in your diet. Instead, cook with traditional animal fats, get your omega-6s from whole food sources such as nuts and poultry, and balance things out with omega-3 fatty acids from seafood, shellfish, and fish oil.

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CHAPTER THREE

VACCINES

POISON THREE · VACCINES

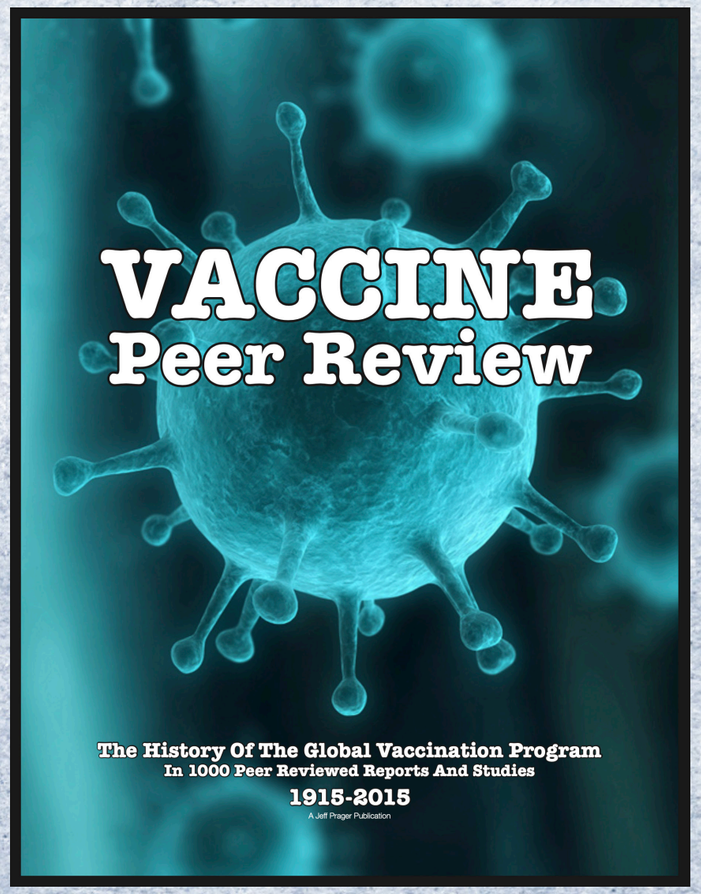
ALL VACCINES
ARE CONTAMINATED

NONE ARE SAFE
AND NONE ARE EFFECTIVE

VACCINES EVENTUALLY CAUSE DISEASE AND DISABILITY
THIS IS THE LONG-TERM EFFECT OF VACCINATION

THE RESEARCH COMMUNITY HAS KNOWN THIS FOR DECADES

THE PEER REVIEW THEY DON'T WANT YOU TO SEE FOLLOWS:



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Autoimmune Syndromes
and
Inflammatory Syndromes

Caused By Adjuvants
In Vaccines

Also Known As

ASIA

A Two Smoking Guns Publication
Produced by Jeff Prager

Anarchy Books
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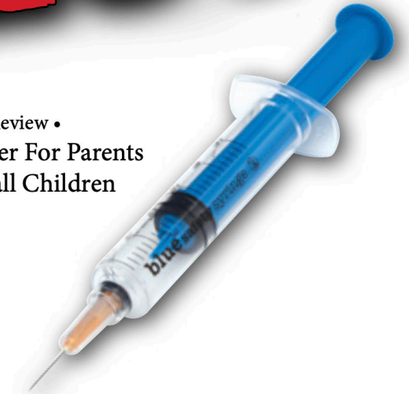
INJECTED

• Vaccination Peer Review •

A Pre-Vaccination Primer For Parents
With Infants and Small Children



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COVID-19: RESEARCHER BLOWS THE WHISTLE ON DATA INTEGRITY ISSUES IN PFIZER'S VACCINE TRIAL

Revelations of poor practices at a contract research company helping to carry out Pfizer's pivotal covid-19 vaccine trial raise questions about data integrity and regulatory oversight

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In autumn 2020 Pfizer's chairman and chief executive, Albert Bourla, released an open letter to the billions of people around the world who were investing their hopes in a safe and effective covid-19 vaccine to end the pandemic. "As I've said before, we are operating at the speed of science," Bourla wrote, explaining to the public when they could expect a Pfizer vaccine to be authorized in the United States.1

But, for researchers who were testing Pfizer's vaccine at several sites in Texas during that autumn, speed may have come at the cost of data integrity and patient safety. A regional director who was employed at the research organization Ventavia Research Group has told The BMJ that the company falsified data, unblinded patients, employed inadequately trained vaccinators, and was slow to follow up on adverse events reported in Pfizer's pivotal phase III trial. Staff who conducted quality control checks were overwhelmed by the volume of problems they were finding. After repeatedly notifying Ventavia of these problems, the regional director, Brook Jackson, emailed a complaint to the US Food and Drug Administration (FDA). Ventavia fired her later the same day. Jackson has provided The BMJ with dozens of internal company documents, photos, audio recordings, and emails.

Poor Laboratory Management

On its website Ventavia calls itself the largest privately owned clinical research company in Texas and lists many awards it has won for its contract work.2 But Jackson has told The BMJ that, during the two weeks she was employed at Ventavia in September 2020, she repeatedly informed her superiors of poor laboratory management, patient safety concerns, and data integrity issues. Jackson was a trained clinical trial auditor who previously held a director of operations position and came to Ventavia with more than 15 years' experience in clinical research coordination and management. Exasperated that Ventavia was not dealing with the problems, Jackson documented several matters late one night, taking photos on her mobile phone. One photo, provided to The BMJ, showed needles discarded in a plastic bio-hazard bag instead of a sharps container box. Another showed vaccine packaging materials with trial participants' identification numbers written on them left out in the open, potentially unblinding participants. Ventavia executives later questioned Jackson for taking the photos.

Early and inadvertent unblinding may have occurred on a far wider scale. According to the trial's design, unblinded staff were responsible for preparing and administering the study drug (Pfizer's vaccine or a placebo). This was to be done to preserve the blinding of trial participants and all other site staff, including the principal investigator. However, at Ventavia, Jackson told The BMJ that drug assignment confirmation printouts were being left in participants' charts, accessible to blinded personnel. As a corrective action taken in September, two months into trial recruitment and with around 1000 participants already enrolled, quality assurance checklists were updated with instructions for staff to remove drug assignments from charts.

In a recording of a meeting in late September2020 between Jackson and two directors a Ventavia executive can be heard explaining that the company wasn't able to quantify the types and number of errors they were finding when examining the trial paperwork for quality control. "In my mind, it's something new every day," a Ventavia executive says. "We know that it's significant."

Ventavia was not keeping up with data entry queries, shows an email sent by ICON, the contract research organization with which Pfizer partnered on the trial. ICON reminded Ventavia in a September 2020 email: "The expectation for this study is that all queries are addressed within 24hrs." ICON then highlighted over 100 outstanding queries older than three days in yellow. Examples included two individuals for which "Subject has reported with Severe symptoms/reactions ... Per protocol, subjects experiencing Grade 3 local reactions should be contacted. Please confirm if an UNPLANNED CONTACT was made and update the corresponding form as appropriate." According to the trial protocol a telephone contact should have occurred "to ascertain further details and determine whether a site visit is clinically indicated."

Worries over FDA inspection

Documents show that problems had been going on for weeks. In a list of "action items" circulated among Ventavia leaders in early August 2020, shortly after the trial began and before Jackson's hiring, a Ventavia executive identified three site staff members with whom to "Go over e-diary issue/falsifying data, etc." One of them was "verbally counseled for changing data and not noting late entry," a note indicates.

At several points during the late September meeting Jackson and the Ventavia executives discussed the possibility of the FDA showing up for an inspection (box 1). "We're going to get some kind of letter of information at least, when the FDA gets here . . . know it," an executive stated.

Box 1: A history of lax oversight

When it comes to the FDA and clinical trials, Elizabeth Woeckner, president of Citizens for Responsible Care and Research Incorporated (CIRCARE),[3] says the agency's oversight capacity is severely under-resourced. If the FDA receives a complaint about a clinical trial, she says the agency rarely has the staff available to show up and inspect. And sometimes oversight occurs too late.

In one example CIRCARE and the US consumer advocacy organisation Public Citizen, along with dozens of public health experts, filed a detailed complaint in July 2018 with the FDA about a clinical trial that failed to comply with regulations for the protection of human participants.[4] Nine months later, in April 2019, an FDA investigator inspected the clinical site. In May this year the FDA sent the triallist a warning letter that substantiated many of the claims in the complaints. It said, "[I]t appears that you did not adhere to the applicable statutory requirements and FDA regulations governing the conduct of clinical investigations and the protection of human subjects."[5]

"There's just a complete lack of oversight of contract research organisations and independent clinical research facilities," says Jill Fisher, professor of social medicine at the University of North Carolina School of Medicine and author of *Medical Research for Hire: The Political Economy of Pharmaceutical Clinical Trials*.

Ventavia and the FDA

A former Ventavia employee told *The BMJ* that the company was nervous and expecting a federal audit of its Pfizer vaccine trial.

"People working in clinical research are terrified of FDA audits," Jill Fisher told *The BMJ*, but added that the agency rarely does anything other than inspect paperwork, usually months after a trial has ended. "I don't know why they're so afraid of them," she said. But she said she was surprised that the agency failed to inspect Ventavia after an employee had filed a complaint. "You would think if there's a specific and credible complaint that they would have to investigate that," Fisher said.

In 2007 the Department of Health and Human Services' Office of the Inspector General released a report on FDA's oversight of clinical trials conducted between 2000 and 2005. The report found that the FDA inspected only 1% of clinical trial sites.[6] Inspections carried out by the FDA's vaccines and biologics branch have been decreasing in recent years, with just 50 conducted in the 2020 fiscal year.[7]

The next morning, 25 September 2020, Jackson called the FDA to warn about unsound practices in Pfizer's clinical trial at Ventavia. She then reported her concerns in an email to the agency. In the afternoon Ventavia fired Jackson—deemed "not a good fit," according to her separation letter. Jackson told The BMJ it was the first time she had been fired in her 20 year career in research.

Concerns raised

In her 25 September email to the FDA Jackson wrote that Ventavia had enrolled more than 1000 participants at three sites. The full trial (registered under NCT04368728) enrolled around 44 000 participants across 153 sites that included numerous commercial companies and academic centers. She then listed a dozen concerns she had witnessed, including:

- Participants placed in a hallway after injection and not being monitored by clinical staff
- Lack of timely follow-up of patients who experienced adverse events
- Protocol deviations not being reported
- Vaccines not being stored at proper temperatures
- Mislabelled laboratory specimens, and
- Targeting of Ventavia staff for reporting these types of problems

Within hours Jackson received an email from the FDA thanking her for her concerns and notifying her that the FDA could not comment on any investigation that might result. A few days later Jackson received a call from an FDA inspector to discuss her report but was told that no further information could be provided. She heard nothing further in relation to her report.

In Pfizer's briefing document submitted to an FDA advisory committee meeting held on 10 December 2020 to discuss Pfizer's application for emergency use authorization of its covid-19 vaccine, the company made no mention of problems at the Ventavia site. The next day the FDA issued the authorization of the vaccine.8

In August this year, after the full approval of Pfizer's vaccine, the FDA published a summary of its inspections of the company's pivotal trial. Nine of the trial's 153 sites were inspected. Ventavia's sites were not listed among the nine, and no inspections of sites where adults were recruited took place in the eight months after the December 2020 emergency authorization. The FDA's inspection officer noted: "The data integrity and verification portion of the BIMO [bio-research monitoring] inspections were limited because the study was ongoing, and the data required for verification and comparison were not yet available to the IND [investigational new drug]."

Other employees' accounts

In recent months Jackson has reconnected with several former Ventavia employees who all left or were fired from the company. One of them was one of the officials who had taken part in the late September meeting. In a text message sent in June the former official apologized, saying that "everything that you complained about was spot on."

Two former Ventavia employees spoke to The BMJ anonymously for fear of reprisal and loss of job prospects in the tightly knit research community. Both confirmed broad aspects of Jackson's complaint. One said that she had worked on over four dozen clinical trials in her career, including many large trials, but had never experienced such a "helter skelter" work environment as with Ventavia on Pfizer's trial. "I've never had to do what they were asking me to do, ever," she told The BMJ. "It just seemed like something a little different from normal—the things that were allowed and expected."
She added that during her time at Ventavia the company expected a federal audit but that this never came.
After Jackson left the company problems persisted at Ventavia, this employee said. In several cases Ventavia lacked enough employees to swab all trial participants who reported covid-like symptoms, to test for infection. Laboratory confirmed symptomatic covid-19 was the trial's primary endpoint, the employee noted. (An FDA review memorandum released in August this year states that across the full trial swabs were not taken from 477 people with suspected cases of symptomatic covid-19.)

"I don't think it was good clean data," the employee said of the data Ventavia generated for the Pfizer trial. "It's a crazy mess."

A second employee also described an environment at Ventavia unlike any she had experienced in her 20 years doing research. She told The BMJ that, shortly after Ventavia fired Jackson, Pfizer was notified of problems at Ventavia with the vaccine trial and that an audit took place. Since Jackson reported problems with Ventavia to the FDA in September 2020, Pfizer has hired Ventavia as a research subcontractor on four other vaccine clinical trials (covid-19 vaccine in children and young adults, pregnant women, and a booster dose, as well an RSV vaccine trial; NCT04816643, NCT04754594, NCT04955626, NCT05035212). The advisory committee for the Centers for Disease Control and Prevention is set to discuss the covid-19 pediatric vaccine trial on 2 November.

Provenance and peer review: commissioned; externally peer reviewed. Competing interests: PDT has been doubly vaccinated with Pfizer's vaccine.

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Abstract

Vaccines are being under investigation for the possible side effects they can cause. In order to supply new information, an electron-microscopy investigation method was applied to the study of vaccines, aimed at verifying the presence of solid contaminants by means of an Environmental Scanning Electron Microscope equipped with an X-ray microprobe. The results of this new investigation show the presence of micro- and nanosized particulate matter composed of inorganic elements in vaccines' samples which is not declared among the components and whose unduly presence is, for the time being, inexplicable. A considerable part of those particulate contaminants have already been verified in other matrices and reported in literature as non biodegradable and non biocompatible. The evidence collected is suggestive of some hypotheses correlated to diseases that are mentioned and briefly discussed.

Keywords: Vaccine; Disease; Contamination; Protein corona; Biocompatibility; Toxicity; Nanoparticle; Immunogenicity; Foreign body; Environment; Industrial process; Quality control

Research Article

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NEW QUALITY-CONTROL INVESTIGATIONS ON VACCINES: MICRO- AND NANO-CONTAMINATION

Vaccines are being under investigation for the possible side effects they can cause. In order to supply new information, an electron-microscopy investigation method was applied to the study of vaccines, aimed at verifying the presence of solid contaminants by means of an Environmental Scanning Electron Microscope equipped with an X-ray microprobe. The results of this new investigation show the presence of micro- and nanosized particulate matter composed of inorganic elements in vaccines' samples which is not declared among the components and whose unduly presence is, for the time being, inexplicable. A considerable part of those particulate contaminants have already been verified in other matrices and reported in literature as non biodegradable and non biocompatible. The evidence collected is suggestive of some hypotheses correlated to diseases that are mentioned and briefly discussed. Vaccines are one of the most notable inventions meant to protect people from infectious diseases. The practice of variolation is century-old and is mentioned in Chinese and Indian documents dated around 1000 A.D. Over time, variolation has been replaced by vaccination, vaccines have been enhanced as to technology, and the vaccination practice is now standardized worldwide.

Recently, with the worldwide-adopted vaccines against Human Papillomavirus (HPV), the debate was reawaken due to some adverse effects reported by some young subjects.

Side effects have always been reported but in the latest years it seems that they have increased in number and seriousness, particularly in children as the American Academy of pediatrics reports [1,2]. For instance, the diphtheria-tetanus-pertussis (DTaP) vaccine was linked to cases of sudden infant death syndrome (SIDS) [3]; measles-mumps-rubella vaccine with autism [4,5]; multiple immunizations with immune disorders [6]; hepatitis B vaccines with multiple sclerosis, etc.

Specific studies communicated the existence of symptoms related to never-described-before syndromes developed after the vaccine was administered. For instance, Complex Regional Pain Syndrome (CRPS), Postural Orthostatic Tachycardia Syndrome (POTS), and Chronic Fatigue Syndrome (CFS) [13]. The side- effects that can arise within a relatively short time can be local or systemic.

The notice of Tripedia DTaP by Sanofi Pasteur reports "Adverse events reported during post-approval use of Tripedia vaccine include idiopathic thrombocytopenic purpura, SIDS, anaphylactic reaction, cellulitis, autism, convulsion/grand mal convulsion, encephalopathia, hypotonia, neuropathy, somnolence and apnea". The epidemiological studies carried out did not show a clear evidence of those associations, even if in 2011 the National Academy of Medicine (formerly, IOM) admitted: "Vaccines are not free from side effects, or adverse effects"[7]. Pain at the site of injection, swelling and uncontrollable movement of the hands (though this last symptom can also be considered systemic) are described. Among the systemic effects, fever, headache, irritability, epileptic seizures, temporary speech loss, lower limbs dysaesthesia and paresis, hot flashes, sleep disorders, hypersensitivity reactions, muscle pain, recurrent syncope,constant hunger,significant gait impairment,incapacity to maintain the orthostatic posture are reported [14].

Specific researches on components of the vaccines like adjuvants (in most instances, Aluminum salts) are al- ready indicated as possible responsible of neurological symptoms [8-10] and in some cases, in-vivo tests and epidemiological studies demonstrated a possible correlation with neurological diseases [10,11]. Neurological damages induced in patients under hemodialysis treated with water containing Aluminum are reported in literature (12).

ALL VACCINES ARE CONTAMINATED THE MANUFACTURING PROCESS MAKES IT IMPOSSIBLE TO MANUFACTURE UNCONTAMINATED VACCINES INCLUDING THE NEW CoV-2 mRNA VACCINES

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Table 1: List of vaccines analyzed, according to their purpose.

N	Name	Brand Name, Country of Distribution	Description	Production Batch, Expiry Date
1	Vivotif Berna	Berna Biotech SA, Italy	Anti-Thyphoid Vaccine (Live), group Ty21a	3000336 [2004]
2	Typhim Vi	Aventis Pasteur MSD, Italy	Anti-Salmonella typhi Vaccine	U1510-2 [2004]
3	Typherix	GlaxoSmithKline S.p.a., Italy	Anti-Thypoid Vaccine (polysaccharide Vi)	ATYPB061BB [2009]
4	Anatetall	Chiron (now Novartis) Italy	Adsorbed anti-Tetanus Vaccine	030106 [2004]
5	Anatetall	Novartis Vaccines and Diagnostics, Italy	Adsorbed anti-Tetanus Vaccine	060510 [2009]
6	Tetabulin	Baxter AG, Italy	Adsorbed anti-Tetanus Vaccine	VNG2G006A [2009]
7	Dif-Tet-All	Novartis Vaccines and Diagnostics, Italy	Adsorbed anti-Tetanus and diphtheria Vaccine	070501 [2009]
8	Infanrix	GlaxoSmithKline S.p.a., Italy	Anti-Diphtheria, tetanus and pertussis vaccine	AC14B071AJ [2009]
9	Infanrix hexa	GlaxoSmithKline Biologicals s, Italy	Anti-diphtheria, tetanus, pertussis, hepatitis B, poliomyelitis and disease caused by Haemophilus influenzae type b	A21CC512A [2017]
10	Infanrix hexa	GlaxoSmithKline Biologicals s. a. France	Anti-diphtheria, tetanus, pertussis, hepatitis B, poliomyelitis and disease caused by Haemophilus influenzae type b	A21CC421A [2017]
11	M-M-R vaxPro	Sanofi Pasteur MSD, Italy	M-M-R vaxPro (measles, mumps, and rubella) analyzed in Cambridge	L012437 [2017]
12	Repevax	Sanofi Pasteur MSD, France	Anti-diphtheria-tetanus-pertussis-polio-vaccine	L0362-1 [2017]
13	Repevax	Sanofi Pasteur MSD SNC France	Anti-diphtheria-tetanus-pertussis-polio-vaccine	L0033-1 [2016]
14	Priorix	GlaxoSmithKline S.p.a., Italy	Anti--measles-mumps, and rubella (MMR) vaccine	A69CB550A [2009]
15	Morupar	Chiron (now Novartis,), Italy	Anti-measles- mumps, and rubella (MMR) vaccine	7601 [2004]
16	Varilrix	GlaxoSmithKline S.p.a., Italy	Anti-Chicken pox vaccine (group OKA)	A70CA567A [2009]
17	Stamaril Pasteur	Sanofi Pasteur MSD, Italy	anti-yellow fever vaccine	A5329-6 [2009]
18	Allergoid-Adsorbat 6-Graser Starke B.	Allergopharma, Germany	Antiallergic vaccine	Ch-B.:30005999-B [2006]
19	Engerix-B	GlaxoSmithKline S.p.a., Italy	Adsorbed anti-hepatitis B vaccine	AHBVB468BD [2009]
20	Prenevar 13	Pfizer, Italy	Antipneumococcal vaccine	G79324 [2013]
21	Prevenar 13	Pfizer, France	Antipneumococcal vaccine	N27430 [2018]
22	Mencevax Acwy	GlaxoSmithKline, Italy	anti-Neisseria meningococcal group A, C, W135 and Y vaccine	N402A47B 12 [2004]
23	Meningitec	Pfizer, Italy	(group C 10) (adsorbed on Al-Phosphate)	H92709 [2015]
24	Meningitec	Pfizer-Italy	Anti-meningococcus (group C 10) vaccine (adsorbed on Al-Phosphate)	H20500 [2014]
25	Meningitec	Pfizer-Italy	Anti-meningococcus vaccine sequestred by Procura della Repubblica	G76673 [2014]
26	Meningitec	Pfizer-Italy	Anti-meningococcus vaccine sequestred by Procura della Repubblica	H99459 [2015]
27	Meningitec	Pfizer-Italy	Anti-meningococcus vaccine sequestred by Procura della Repubblica	H52269 [2015]
28	Menjugate	Novartis Vaccines and Diagnostics	Anti-meningococcus group C	YA0163AB [2010]
29	Menveo	Novartis Vaccines and Diagnostics	Antimeningococcus groups A, C, W135, Y	A15083 [2017]
30	Meningitec	Wyeth Pharmaceutical - France	Anti-meningococcus group C vaccine	E83920 [2011]
31	Inflexal V	Berna Biotech	Anti-flu vaccine 2008/2009	3001463-01 [2009]
32	Vaxigrip	Sanofi Pasteur MSD	Anti-flu vaccine 2008/2009	D9703-1 [2009]
33	Vaxigrip	Sanofi Pasteur	Anti-flu vaccine 2012/2013	J8401-1 [2013]
34	Vaxigrip	Sanofi Pasteur, Italy	Anti-flu vaccine, with inactivated and split virus	M7319-1 [2016]
35	Focetria	Novartis Vaccines and Diagnostics	Anti-pandemic flu H1N1 vaccine	0902401 [2010]
36	Agrippal	Novartis	Anti-flu vaccine 2012/2013	127002A [2013]
37	Agrippal	Novartis vaccines, Italy	Anti-flu vaccine with inactivated and split virus 2015/2016 -	152803 [2016]
38	Agrippal S1	Novartis Vaccines and Diagnostics	Anti-flu inactivated/superficial antigene v - 2014/2015	147302A [2015]
39	Fluarix	GlaxoSmithKline - GSK	Anti-flu vaccine 2013	AFLUA789AA [2014]
40	Fluad	Novartis Vaccines and Diagnostics	Anti-flu inactivated/superficial antigene vaccine - 2014/2015	142502 [2015]
41	Gardasil	Sanofi Pasteur MSD, Italy	Anti-HPV types 6,11,16,18 vaccine	NP01250 [2012]
42	Gardasil	Sanofi Pasteur MSD, Italy	Anti-HPV (types 6,11,16,18) vaccine	K023804 [2016]
43	Cervarix	GlaxoSmithKline Biological, Italy	Anti-HPV (type 16,18)	AHPVA238AX [2017]
44	Feligen CRP	Virbac S.A. - Carros - Italy	anti-panleucopenia, infectious rhinotracheitis and infections by Calcivirus, veterinary Vaccine for cats	3R4R [2013]

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recurrent syncope, constant hunger, significant gait impairment, incapacity to maintain the orthostatic posture are reported [14]. It is a matter of fact that every day millions of vaccine doses are administered and nothing notable happens, but it is also irrefutable that, regardless of the amount of side effects that are not recorded and the percentage of which remains in fact unknown, in a limited number cases something wrong occurs. No satisfactory explanation or, in many cases, no explanation at all has been given and it seems that those adverse effects happen on a random and stochastic basis. Those situations induced us to verify the safety of vaccines from a point of view which was never adopted before: not a biological, but a physical approach. So, we developed a new analysis method based on the use of a Field Emission Gun Environmental Scanning Electron Microscope investigations to detect possible physical contamination in those products. 44 types of vaccines coming from 2 countries (Italy and France) were analyzed. Table 1 groups them in terms of name, brand and purpose. Some vaccines, in fact a minority, are meant to deal with a single bacterium or virus, while others are multi-valent. The list of vaccines we analyzed may contain repeated names, because we considered different batches

and years of production of the same vaccine: the ones against influenza in particular. A drop of about 20 microliter of vaccine is released from the syringe on a 25-mm-diameter cellulose filter (Millipore, USA), inside a flow cabinet. The filter is then deposited on an Aluminum stub covered with an adhesive carbon disc. The sample is immediately put inside a clean box in order to avoid any contamination and the box is re-opened only for the sample to be inserted inside the FEG-ESEM chamber. We selected that particular type of microscope as it allows to analyze watery and oily samples in low vacuum (from 10 to 130 Pa) at a high sensitivity. The study was aimed at verifying a possible physical contamination. To do that, we performed a new kind of investigation based on observations under a Field Emission Gun Environmental Electron Scanning Microscope (FEG-ESEM, Quanta 200, FEI, The Netherlands) equipped with the X-ray microprobe of an Energy Dispersive Spectroscope (EDS, EDAX, Mahwah, NJ, USA) to detect the possible presence of inorganic, particulate contaminants and identify their chemical composition.

When the water and saline the vaccine contains are evaporated, the biological/physical components emerge on the filter and it is then possible to observe them. This type of microscope (low-vacuum observations) prevents the possible sample contamination and the creation of artifacts. The observations are made with different sensors (SE: secondary-electron sensor and BSE: backscattered-electron sensor), and are performed at a pressure of 8.9 e-1 mbar, at energies ranging from 10 to 30kV to detect the particulate matter's size, morphology and its elemental composition. The method identifies clearly inorganic bodies with a higher atomic density (looking whiter) than the biological substrate. So, organic entities are visible and easy to distinguish from inorganic ones. The method can- not distinguish between proteins and organic adjuvants (e.g. squalene, glutamate, proteins, etc.) or viruses, bacteria, bacteria's DNA, endotoxins and bacteria's waste, but their comparatively low atomic density allows us to identify these entities as organic matter. In some vaccines, the organic matter contains white-looking debris named aggregates, while a high concentration or inorganic debris is called a cluster.

Single inorganic particles or organic-inorganic aggregates are identified, evaluated and counted. The counting procedure is repeated three times by three different opera- tors, with an error lower than 10%. When a layer of salts (Sodium chloride or Aluminum) is detected, we record the situation but we do not do body count.

The investigations verified the physical-chemical composition of the vaccines considered according to the inorganic component as declared by the Producer. In detail, we verified the presence of saline and Aluminum salts, but further presence of micro-, sub- micro- and nanosized, in- organic, foreign bodies (ranging from 100nm to about ten microns) was identified in all cases, whose presence was not declared in the leaflets delivered in the package of the product (Table 2, See next page).

Table 3: List of the debris' number identified in each vaccine as single particle, clusters and aggregates. Characterization is made by shape, size range and variability of the number of particles counted in each aggregate [in brackets].

Name	Total Debris n.	Size Range in μm	Cluster n.	Size Range in μm	Aggregate n.(Range of Particles)	Size Range μm
Allergoid	NaCl precipitates	/	/	/	/	/
Typhim Vi	394	0,1-2,5			3[9-350]	2-35
Tetabulin	519	0,1-15			3[100-180]	25-60
Vivotif Berna	4	1,5-15				
Inflexal V	103	0,1-17	1	20	3[35-45]	10-25
Anatetall	2	1-3				
Morupar	/		/		/	
Mencevax ACWY	13	0,2-5				
Infanrix	3	1-5	1	25		
Infanrix hexa	1821	0,1-15			15[1820]	20-140
Infanrix hexa	162	0,3-7	12	60	2[7 debris]	3.5-44
Typherix	8	0,2-8	1	15		
Priorix	641	0,05-30	1	10	3[600]	20-70
Engerix-B	precipitates			/		
Varilrix	2723	0,1-4			36 [120-2000]	15-40

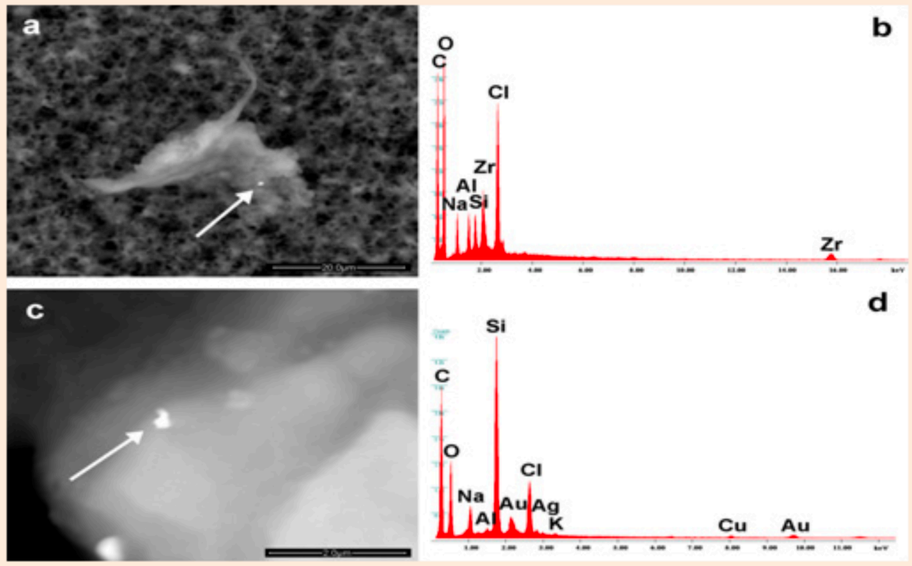


Figure 4: Images show examples of nano biointeraction. The aggregate (a,b) identified in Gardasil contains nanoparticles of Chlorine, Silicon, Aluminum, Zirconium, while the debris found in Repevax contains Silicon, Gold, Silver (c,d). The arrows show the points where EDS spectra were taken.

EDITORS NOTE: The far right column in the chart on this page and the next page displays the contaminants found in each vaccine. For example, Table 2 at right lists as number 4 the Berna Biotech vaccine called Vivotif Berna without an aluminum adjuvant. The far right column lists the nano-contaminants found in this vaccine. They are as follows:

1. FeAl Iron Aluminide
https://www.americanelements.com/iron-aluminide-feal-12042-17-0

2. ZrAlHf Zirconium, Iron Aluminide, Hafnium

3. SrAl Strontium, Iron Aluminide

4. BiAlCl Bimetal, Iron Aluminide, Chlorine

Where several metals or chemicals are listed together they are found as conglomerates, combined, homogenized.

Figure 1a shows a layer of crystals of Sodium Chloride (NaCl) embedding salts of Aluminum Phosphate (AlPO4) in a drop of Gardasil (anti-HPV vaccine by Merck) as the EDS spectrum (Figure 1b) shows. Saline is the fluid base to any vaccine preparation and Aluminum salts or Aluminum hydroxide [Al(OH)] are the adjuvants which are usually added.

Looking at the area outside these precipitates but inside the liquid drop, we identified other things: single particles, clusters of particles and aggregates (organic-inorganic composites) that are due to an interaction of the inorganic particulate matter with the organic part of the vaccine.

Figure 2a-2f shows the different typology of entities identified in the vaccines (Repevax, Prevenar and Gardasil); single particles, cluster of micro- and nanoparticles (<100nm) and aggregates with their EDS spectra (Figure 2d-2f). The images (Figure 2a & 2d) show debris of Aluminum, Silicon, Magnesium and Titanium; of Iron, Chromium, Silicon and Calcium particles (Figure 2b & 2e) arranged in a cluster, and Aluminum-Copper debris (Figure 2c and 2f) in an aggregate.
As can be seen, the particles are surrounded and embedded in a biological substrate. In all the samples analyzed, we identified particles containing: Lead (Typhym, Cervarix, Agrippal S1, Meningitec, Gardasil) or stainless steel (Mencevax, Infarix Hexa, Cervarix. Anatetall, Focetria, Agrippal S1, Menveo, Prevenar 13, Meningitec, Vaxigrip, Stamaril Pasteur, Repevax and MMRVaxPro).

Table 2: List of the vaccines according to their manufacturers with the chemical composition of the debris identified in each sample. The elements most represented are reported.

N	Company	Name	Alluminum	Elements Identified
1	Allergopharma - Germany	Allergoid	yes	Al
2	Aventis Pasteur MSD Lyon - Francie	Typhim Vi	no	BrKP, PbSi, FeCr, PbClSiTi
3	Baxter AG	Tetabulin	no	SiMg, Fe, SiTiAl, SBa, Zn
4	Berna Biotech	Vivotif Berna	no	FeAl, ZrAlHf, SrAl, BiAlCl
5	Berna Biotech	Inflexal V	no	CuSnPbZn, Fe, CaSiAl, SiAl, NaPZn, ZnP, AlSiTi
6	Chiron	Anatetall	$Al(OH)_3$	FeAl, SZnBaAl
7	Chiron	Morupar	no	/
8	GlaxoSmithKline- Belgium	Mencevax ACWY	no	FeCrNi, ZrAl, FeCrNiZrAlSi
9	GlaxoSmithKline	Infanrix	$Al(OH)_3$	Al, AlTi, AlSi
10	GlaxoSmithKline Biologicals	Infanrix hexa	$Al(OH)_3$	SBa, FeCu, SiAl, FeSi, CaMgSi, AlCaSi, Ti, Au, SCa, SiAlFeSnCuCrZn, CaAlSi
11	GlaxoSmithKline Biologicals	Infanrix hexa	$Al(OH)_3$,$AlPO_4$· $2H_2O$	W, FeCrNi, Ti
12	GlaxoSmithKline	Typherix	no	Ti, TiW, AlSiTiWCr, SBa, W, SiAl, AlSiTi
13	GlaxoSmithKline	Priorix	no	WCa, WFeCu, SiAl, SiMg, PbFe, Ti, WNiFe
14	GlaxoSmithKline	Engerix-B	no	Al (precipitates)
15	GlaxoSmithKline	Varilrix	no	FeZn, FeSi, AlSiFe, SiAlTiFe, MgSi, Ti, Zr, Bi
16	GlaxoSmithKline	Fluarix	no	AlCu, Fe, AlBi, Si, SiZn, AlCuFe, SiMg, SBa, AlCuBi, FeCrNi, SPZn
17	GlaxoSmithKline Biologicals	Cervarix	$Al(OH)_3$	AlSi,FeAl, SiMg,CaSiAl, CaZn, FeAlSi, FeCr, CuSnPb
18	Novartis Vaccines and Diagnostics	Anatetall	$Al(OH)_3$	Al, FeCrNi, AlCr, AlFe, BaS, ZnAl
19	Novartis Vaccines and Diagnostics	Dif-Tet-All	$Al(OH)_3$	Fe,SBa, SiSBa, AlZnCu, AlZnFeCr

Figure 3a-3d show particles of Tungsten identified in drops of Prevenar and Infarix (Aluminum, Tungsten, Calcium chloride).

Figure 4a-4d present singular debris found in Repevax (Silicon, Gold, Silver) and Gardasil (Zirconium).

Some metallic particles made of Tungsten or stainless steel were also identified. Other particles containing Zirconium, Hafnium, Strontium and Aluminum (Vivotif, Meningetec); Tungsten, Nickel, Iron (Priorix, Meningetec); Antimony (Menjugate kit); Chromium (Meningetec); Gold or Gold, Zinc (Infarix Hexa, Repevax), or Platinum, Silver, Bismuth, Iron, Chromium (MMRvaxPro) or Lead,Bismuth (Gardasil) or Cerium (Agrippal S1) were also found. The only Tungsten appears in 8/44 vaccines, while Chromium (alone or in alloy with Iron and Nick- el) in 25/44. The investigations revealed that some particles are embedded in a biological substrate, probably proteins, endotoxins and residues of bacteria. As soon as a particle comes in contact with proteic fluids, a nano-bio-interaction [6] occurs and a "protein corona" is formed [7-10]. The nano-bio-interaction generates a bigger-sized compound that is not biodegradable and can induce adverse effects since it is not recognized as self by the body.

Figure 5a-5f show examples of these nano-bio-interactions.

Aggregates can be seen (stable composite entities) containing particles of Lead in Meningitec, (Figure 5a & 5b) of stainless steel (Iron, Chromium and Nickel, Figure 5c & 5d) and of Copper, Zinc and Lead in Cervarix (Figure 5e & 5f). Similar aggregates, though in different situations (patients suffering from leukemia or cryoglobulinemia), have already been described in literature.

20	Novartis Vaccines and Diagnostics	Menjugate kit	$Al(OH)_3$	SiAl,Ti,FeZn, Fe, Sb, SiAlFeTi, W, Zr
21	Novartis Vaccines and Diagnostics	Focetria	no	Fe, FeCrNiCu, FeCrNi, SiFeCrNi, Cr, SiAlFe, AlSiTiFe, AlSi, SiMgFe, Si, FeZn
22	Novartis	Agrippal S1	no	Ca, Fe, SBa, SBaZn, Cr, Si, Pb, Bi, e FeSiAlCr, SiAlSBaFe, CaAlSi, Zn, CeFeTiNi, FeCrNi
23	Novartis Vaccines and Diagnostics	Agrippal S1	no	SiAlK, Si, SiMgFe, CaSiAl, SBaZn
24	Novartis vaccines	Agrippal	no	Cr, Ca, SiCaAl, ZrSi, SBa, CuZn, SCa
25	Novartis Vaccines and Diagnostics S	Fluad	no	CaSiAl, FeSiTi,SiMgAlFe, SBa
26	Novartis Vaccines and Diagnostics	Menveo	no	CaSiAl, SiAlFe, FeCrNi, Fe, Al, SBa
27	Pfizer	Prenevar 13	no	FeCr
28	Pfizer	Prevenar 13	no	W, CaAlSi, Al, CaSiAlFe, FeS, FeCr, FeCrNi, Fe, , CaP, FeTiMn, Ba, SiMgAlFe
29	Pfizer	Meningitec - ctrl	no	Cr, Si
30	Pfizer	Meningitec - ctrl	no	FeCrNi, W
31	Pfizer	Meningitec	no	CaSiAl, CaSi, SiAlFeTi, FeCrNi, W, Fe, Pb
32	Pfizer	Meningitec	no	Cr (precipitates), Ca, AlSi
33	Pfizer	Meningitec	no	W, SiCa, CaSi, Pb, FeCrNi, Cr
34	Wyeth Pharmaceutical - UK	Meningitec	no	SiAlFe, SiAlTi, SiMgFe, W, Fe, Zr, Pb, Ca, Zn, FeCrNi
35	Sanofi Pasteur MSD-France	Vaxigrip	no	Fe, FeCrNi, SiAlFe, AlSi, SiAlFeCr
36	Sanofi Pasteur MSD	Stamaril Pasteur	no	CaSiAl, AlSi, Fe, SiMgFe, SiMgAlFe, CrSiFeCr, CrSiCuFe
37	Sanofi Pasteur MSD	Gardasil	$AlPO_4 . 2H_2O$	AlCuFe, PbBi, Pb, Bi, Fe
38	Sanifi Pasteur MSD	Gardasil	$AlPO_4 . 2H_2O$	CaAlSi, AlSi, SiMgFe, Al,Fe, AlCuFe, FeSiAl, BiBaS, Ti, TiAlSi
39	Sanofi Pasteur	Vaxigrip	no	Ca, CrFe, FeCrNi, CaSZn, CaSiAlTiFe, Ag, Fe
40	Sanofi Pasteur	Vaxigrip	no	SiMgFe, CaSiAl, AlSiFe, AlSi,FeCr, FeZn, Fe
41	Sanofi Pasteur MSD	Repevax	$AlPO_4 .2H_2O$	Bi, Fe, AlSiFe, SiMg, SBa, Ca
42	Sanofi Pasteur MSD S	Repevax	$AlPO_4 .2H_2O$	Ti, Br, AuCuZn, Ca, SiZn, SiAuAgCu, SiMgFe,FeCrNi. AlSiMgTiMnCrFe, SiFeCrNi, FeAl
43	Sanofi Pasteur MSD	M-M-R vaxPro	no	Si, SiFeCrNi, FeCrNi,FeNi, Fe, SCa, AlSiCa, CaAlSiFeV, SBa, Pt, PtAgBiFeCr
44	Virbac S.A. - Carros - France	Feligen CRP	no	Ca,SiAl

DISCUSSION

The quantity of foreign bodies detected and, in some cases, their unusual chemical compositions baffled us. The inorganic particles identified are neither biocompatible nor biodegradable, that means that they are biopersistent and can induce effects that can become evident either immediately close to injection time or after a certain time from administration. It is important to remember that particles (crystals and not molecules) are bodies foreign to the organism and they behave as such. More in particular, their toxicity is in some respects different from that of the chemical elements composing them, adding to that toxicity which, in any case, is still there, that typical of foreign bodies. For that reason, they induce an inflammatory reaction.

After being injected, those microparticles, nanoparticles and aggregates can stay around the injection site forming swellings and granulomas [17]. But they can also be carried by the blood circulation, escaping any attempt to guess what will be their final destination. We believe that in many cases they get distributed throughout the body without causing any visible reaction, but it is also likely that, in some circumstances, they reach some organ, none excluded and including the microbiota, in a fair quantity. As happens with all foreign bodies, particularly that small, they induce an inflammatory reaction that is chronic because most of those particles cannot be degraded. Furthermore, the protein-corona effect (due to a nano-bio-interaction [18]) can produce organic/inorganic composite particles capable of stimulating the immune system in an undesirable way [19-22]. It is impossible not to add that particles the size often observed in vaccines can enter cell nuclei and interact with the DNA [23].

In some cases, e.g. as occurs with Iron and some Iron alloys, Given the contaminations we observed in all samples of they can corrode and the corrosion products exert a toxicity human-use vaccines, adverse effects after the injection of those affecting the tissues [24-26].

The detection of presence of Aluminum and NaCl salts is obvious as they are substances used by the Producers and declared as components, but other materials are not supposed to be in the vaccine or in any other injectable drug, at that, and, in any case, Aluminum has already been linked with neurological diseases [27-29].

Given the contaminations we observed in all samples of human-use vaccines, adverse effects after the injection of those vaccines are possible and credible and have the character of randomness, since

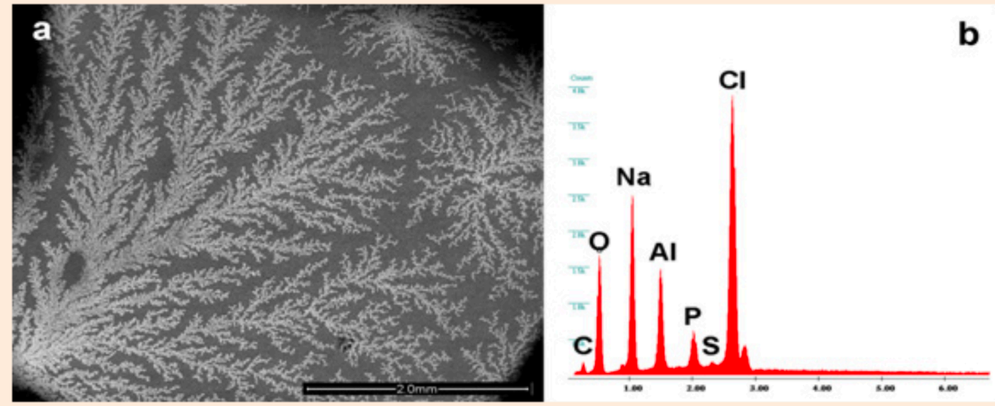


Figure 1: Crystals of saline solution and Aluminum Phosphate and corresponding EDS spectra.

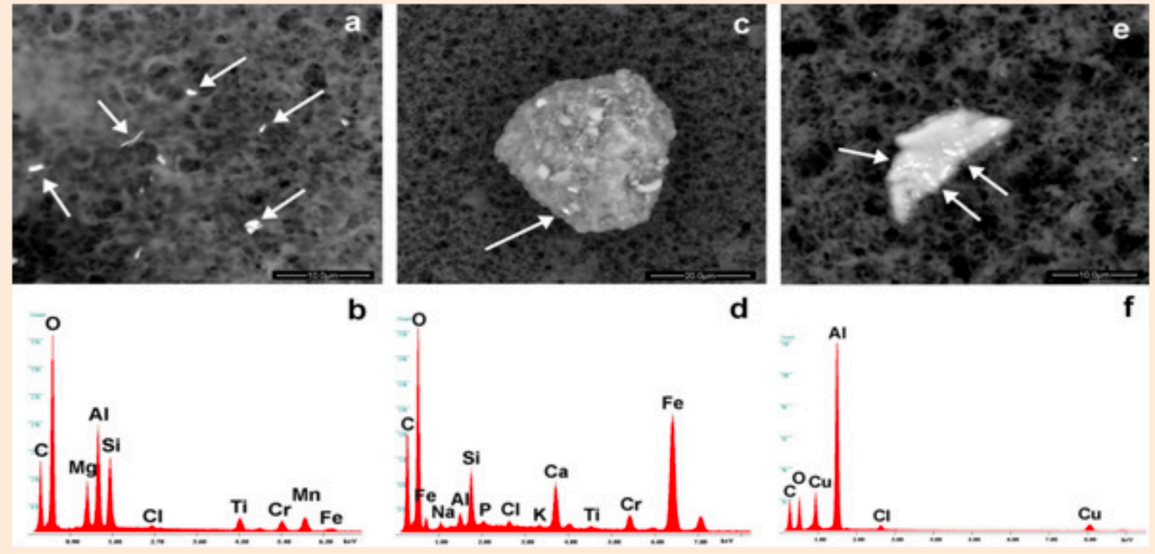


Figure 2: Images of single particles, cluster of micro- and nanoparticles (<100nm) andaggregates with their EDS spectra. They are respectively composed of (a,b) Aluminum, Silicon, Magnesium, Titanium, Chromium, Manganese, Iron, (c,d) Iron, Silicon, Calcium Titanium, Chromium, (e,f) Aluminum, Copper. The arrows show the points where EDS spectra were taken.

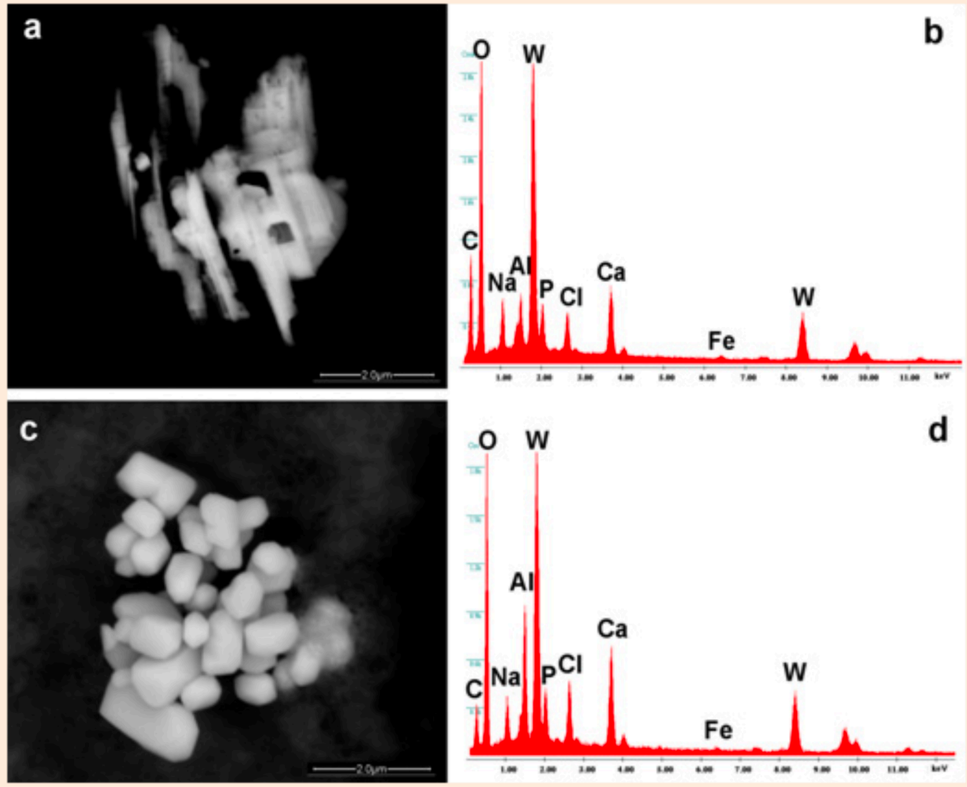


Figure 3: Images of Tungsten particles identified in drops of Prevenar and Infarix. They are composed respectively of Tungsten, Aluminum, Iron but in different concentrations. The arrows show the points where EDS spectra were taken.

they depend on where the contaminants are carried by the blood circulation. It is only obvious that similar quantities of these foreign bodies can have a more serious impact on very small organisms like those of children. Their presence in the muscles, due an extravasation from the blood, could heavily impair the muscle functionality [30,31].

We come across particles with chemical compositions, similar to those found in the vaccines we analyzed, when we study cases of environmental contamination caused by different pollution sources. In most circumstances, the combinations detected are very odd as they have no technical use, cannot be found in any material handbook and look like the result of the random formation occurring, for example, when waste is burnt. In any case, whatever their origin, they should not be present in any injectable medicament, let alone in vaccines, more in particular those meant for infants. Other forms of so-far unknown contaminations have recently been observed and, in any case, vaccines contain components that could themselves be the cause of adverse effects. It is a well-known fact in toxicology that contaminants exert a mutual, synergistic effect, and as the number of contaminants increases, the effects grow

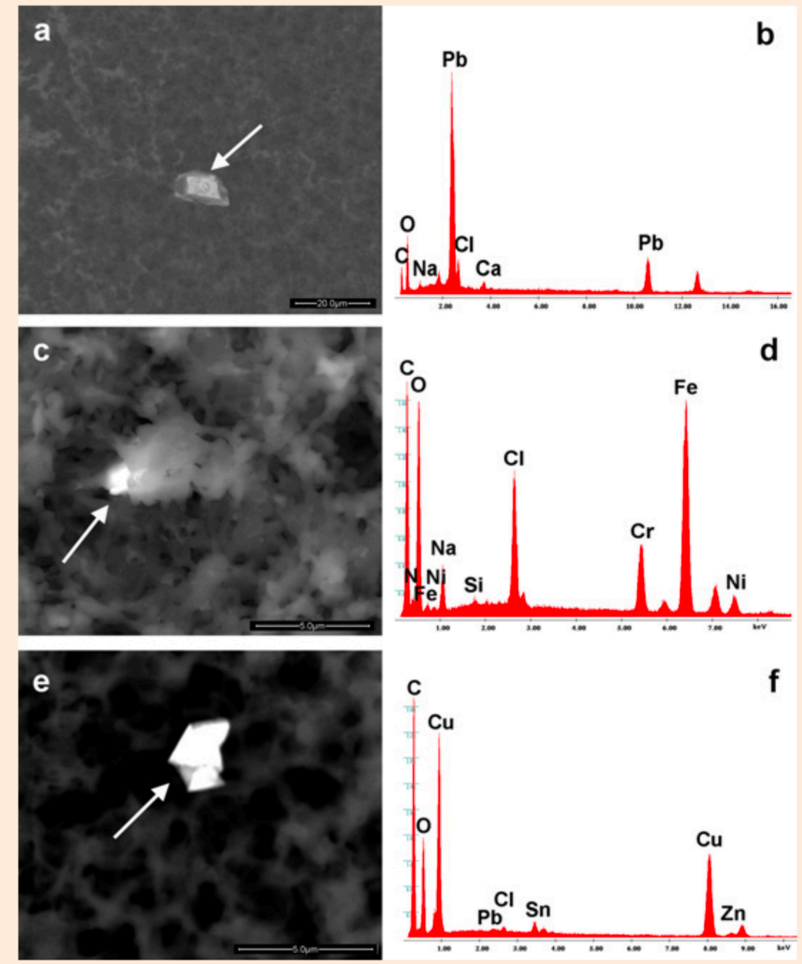


Figure 5: show particles surrounded by an organic compound. They are composed of Lead (a,b), Iron, Chromium, Nickel (stainless steel; c,d), Copper, Tin, Lead (e,f). The arrows show the points where EDS spectra were taken.

less and less predictable. The more so when some substances are unknown. As a matter of fact, no exhaustive and reliable official data exist on the side-effects induced by vaccines. The episodic evidence reported by people allegedly damaged by vaccines is twofold: some say the damage occurred and became visible within a few hours from administration, and some maintain that it was a matter of some weeks. Though we have no indisputable evidence as to the reliability of those attestations, we can put forward a hypothesis to explain the different phenomena. In the former case, the pollutants contained in the drug have reached the brain and, depending on the anatomical site interested, have induced

a reaction. If that is the case, the whole phenomenon is very rapid. In the latter circumstance, the pollutants reached the micro- biota, thus interfering with the production of enzymes necessary to carry out neurological functions [32-35]. That possibility takes time, as it involves the production of chemical compounds in a sufficient quantity, and an elapse of some weeks between injection and clinical evidence is reasonable. Of course, ours is no more than a hypothesis open to discussion and in need of proof, hoping that a chance of further investigation is allowed.

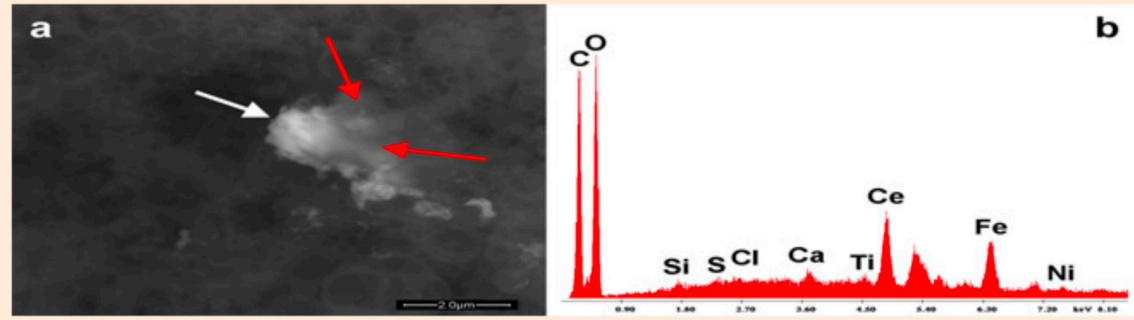


Figure 6: show an organic aggregate containing a debris made of Cerium, Iron, Nickel, Titanium. The red arrow indicates the organic layer (less atomically dense) that covers the Cerium particle.

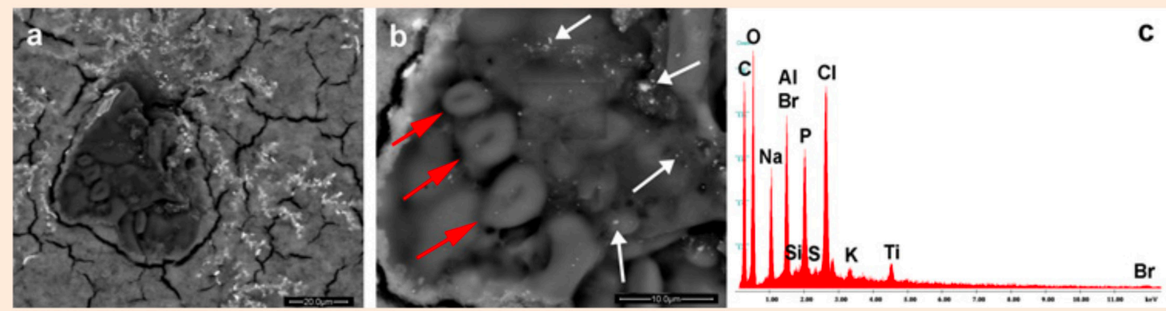


Figure 7: Image of an area in a Repevax drop where the morphology of red cells (red arrows) were identified. It is impossible to know whether they are human or animal origin. Among the debris of saline and Aluminum phosphate, there is the presence of debris (white arrows) composed of Aluminum, Bromine, Silicon, Potassium, Titanium.

Numerous links to the original published, peer reviewerd report:

https://siksik.org/wp-content/uploads/vaccins/02-2017-Medcrave-Nanocontamination.pdf
https://medcraveonline.com/IJVV/new-quality-control-investigations-on-vaccines-micro--and-nanocontamination.html
https://www.researchgate.net/publication/313498832_New_Quality-Control_Investigations_on_Vaccines_Micro-_and_Nanocontamination
https://childrenshealthdefense.org/research_db/new-quality-control-investigations-on-vaccines-micro-and-nanocontamination/
https://www.semanticscholar.org/paper/New-Quality-Control-Investigations-on-Vaccines%3A-and-Gatti-Montanari/6e0e3ffeecc15e2faa80f5176fb16e5d253919e3
https://pdfs.semanticscholar.org/4399/0b6411e7b46cf47b62932e1248fa3ffcbf15.pdf?_ga=2.153180728.1293147465.1645109638-514518259.1645109638

CONCLUSION

The analyses carried out show that in all samples checked vaccines contain non biocompatible and bio-persistent foreign bodies which are not declared by the Producers, against which the body reacts in any case. This new investigation represents a new quality control that can be adopted to assess the safety of a vaccine. Our hypothesis is that this contamination is unintentional, since it is probably due to polluted components or procedures of industrial processes (e.g. filtrations) used to produce vaccines, not investigated and not detected by the Producers. If our hypothesis is actually the case, a close inspection of the working places and the full knowledge of the whole procedure of vaccine preparation would probably allow to eliminate the problem.

A further purification of the vaccines could improve their quality and could probably decrease the number and seriousness of the adverse incidental effects. The Authors are indebted to Dr. Federico Capitani, Dr. Laura Valentini and Mrs. Lavinia Nitu for their technical assistance. The opinions and conclusions are not necessarily those of the institution.

EDITORS NOTE: The chart at right shows additional contaminants found in EVERY vaccine besides the various metals and homogenized conglomerates of groups of metals and chemicals as noted in the study

There are two additional published, peer reviewed studies with very much the same findings. There are also a number of peer reviewed reports, videos, spectographic images and various types of microscopy images of graphene, graphene oxide and/or graphine hydroxide in the newer mRNA CoV-2 injectable.

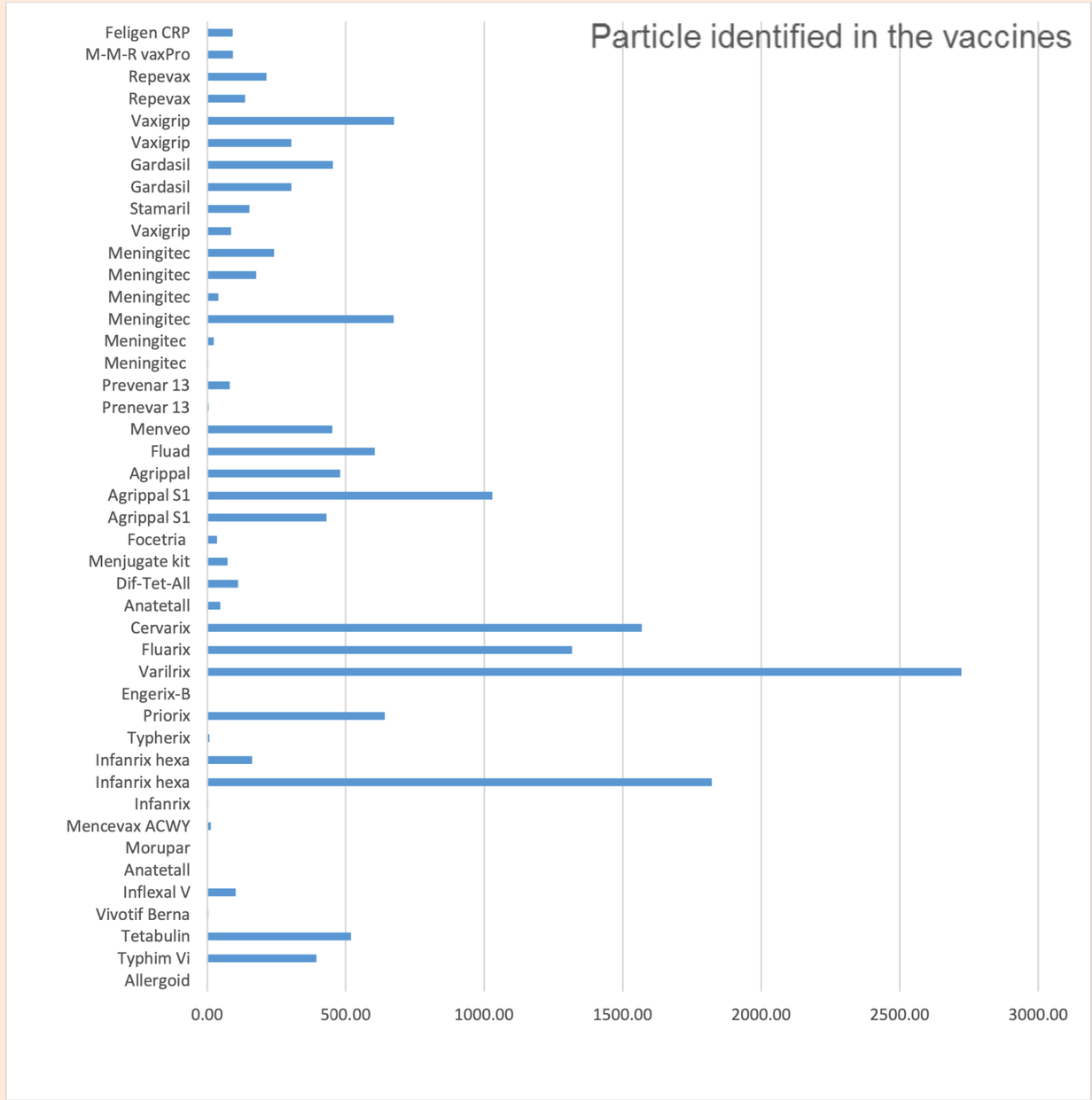


Figure 8: Graph of the debris' quantities identified in a 20 microl drop of every vaccine.

Journal of Law, Medicine and Ethics
2013, Vol. 14, No. 3:590-610

Institutional Corruption of Pharmaceuticals and the Myth of Safe and Effective Drugs

By Dr. Donald W. Light, Ph.D., is a fellow for 2012-2013 at the Edmond J. Safra Center for Ethics at Harvard University in Cambridge, MA. He received his Ph.D. in sociology from Brandeis University and is a professor of comparative health policy at Rowan University, School of Osteopathic Medicine.

By Dr. Joel Lexchin, M.Sc., M.D., has been teaching health policy for 12 years at York University in Toronto, ON. He received his M.D. from the University of Toronto in 1977 and since 1988 has been an emergency physician at the University Health Network in Toronto.

By Dr. Jonathan J. Darrow, J.D., M.B.A., LL.M., S.J.D., is a research fellow at Harvard Medical School and a lecturer on law at Bentley University in Waltham, MA. He received his S.J.D. from Harvard in 2013.

~ June 1, 2013 ~

Read This Fascinating Essay:

My Box Account
https://app.box.com/s/5414zf7lufhtwf3czjfo9msafnoz6ht5
or:
Direct From Author:
https://www.academia.edu/6750219/Institutional_Corruption_and_the_Myth_of_Safe_and_Effective_Drugs

or:
At Harvard University:
https://ethics.harvard.edu/news/institutional-corruption-and-pharmaceutical-policy

"Using publicly available information, the investigation shows that the Vaccine Injury Compensation Program (VICP) has been compensating cases of vaccine-induced brain damage associated with autism for more than twenty years. This investigation suggests that officials at HHS, the Department of Justice and the Court of Federal Claims may have been aware of this association but failed to publicly disclose it."

Pace Environmental Law Review, vol. 28, no. 2 • 2011

Unanswered Questions A Review of Compensated Cases of Vaccine-Induced Brain Injury

By Mary Holland, Louis Conte, Robert Krakow and Lisa Colin

Excerpt

This empirical investigation, published in a peer-reviewed law journal, examines claims that the VICP compensated for vaccine-induced encephalopathy and seizure disorder. The VICP has compensated approximately 2,500 claims of vaccine injury since the inception of the program. This study found 83 cases of acknowledged vaccine- induced brain damage that include autism, a disorder that affects speech, social communication and behavior. In 21 published cases of the Court of Federal Claims, which administers the VICP, the Court stated that the petitioners had autism or described autism unambiguously. In 62 remaining cases, the authors identified settlement agreements where Health and Human Services (HHS) compensated children with vaccine-induced brain damage, who also have autism or an autism spectrum disorder.

http://www.ebcala.org/unanswered-questions

"Pestivirus RNA was detected in two measles-mumps-rubella combined vaccines and in two monovalent vaccines against mumps and rubella."

Journal Of Clinical Microbiology • June 1994

Evidence of pestivirus RNA in human virus vaccines

Harasawa R1, Tomiyama T.
Animal Center for Biomedical Research Faculty of Medicine
University of Tokyo, Japan

Abstract

We examined live virus vaccines against measles, mumps, and rubella for the presence of pestivirus RNA or of pestiviruses by reverse transcription PCR. Pestivirus RNA was detected in two measles-mumps-rubella combined vaccines and in two monovalent vaccines against mumps and rubella. Nucleotide sequence analysis of the PCR products indicated that a modified live vaccine strain used for immunization of cattle against bovine viral diarrhea is not responsible for the contamination of the vaccines.

http://www.ncbi.nlm.nih.gov/pubmed/?term=8077414

"The incidence of contamination among the four viral vaccines was in the range of 20 to 37%, and the incidence among the six manufacturers varied from 0 to 56%."

Biologicals • December 1996

Application of PCR for detection of mycoplasma DNA and pestivirus RNA in human live viral vaccines

Sasaki T1, Harasawa R, Shintani M, Fujiwara H, Sasaki Y, Horino A, Kenri T, Asada K, Kato I, Chino F.
Department of Safety Research on Biologics National Institute of Health, Tokyo, Japan

Abstract

PCR techniques were applied for the detection of mycoplasma DNA and pestivirus RNA to 43 lots of live viral vaccines (measles, mumps, rubella, and oral poliomyelitis) produced by six manufacturers in Japan. Although mycoplasma DNA was not detected in any of the vaccines tested, pestivirus RNA was detected in 12 lots (28%). The incidence of contamination among the four viral vaccines was in the range of 20 to 37%, and the incidence among the six manufacturers varied from 0 to 56%.

http://www.ncbi.nlm.nih.gov/pubmed/9088554

"Twenty-four samples were selected from European manufacturers, ten were from U.S.A. and four from Japan. Five (13.1%) out of 38 tested samples were positive for pestivirus RNA. Three vaccines (rubella and two measles) were from Europe and two (mumps and rubella) from Japan."

Journal Of Veterinary Medical Science • July 2001

Genotypes of pestivirus RNA detected in live virus vaccines for human use

Giangaspero M1, Vacirca G, Harasawa R, Büttner M,
Panuccio A, De Giuli Morghen C, Zanetti A, Belloli A, Verhulst A.

Institute of Special Pathology and Veterinary Medical Clinic Faculty of Veterinary Medicine
The University of Milan, Italy

Abstract

Live virus vaccines for human use, 29 monovalent vaccines against measles, mumps, rubella or polio, eight polyvalent vaccines against measles- mumps-rubella and one bacterial polyvalent vaccine against Streptococcus pneumoniae, were tested by reverse transcriptase-nested PCR for the presence of petivirus or pestivirus RNA. Twenty-four samples were selected from European manufacturers, ten were from U.S.A. and four from Japan. Five (13.1%) out of 38 tested samples were positive for pestivirus RNA. Three vaccines (rubella and two measles) were from Europe and two (mumps and rubella) from Japan. The 5'-untranslated genomic region of the contaminant pestivirus RNA were amplified by reverse transcription-PCR and sequenced. Analyses based on primary nucleotide sequence homology and on secondary structures, characteristic to genotypes, revealed that the cDNA sequences belonged to bovine viral diarrhea virus (BVDV). A cDNA sequence, detected from one measles sample, belonged to BVDV-1b genotype. Pestiviral cDNA detected from the Japanese mumps and rubella vac- cine samples, belonged to the BVDV genotypes 1a and 1c, respectively. Analysis on two cDNA sequences detected from measles and rubella vac- cine samples from Europe showed their appurtenance to a new genotype, BVDV-1d. These findings indicate that contamination by animal pestivirus may occur in biological products for human use.

http://www.ncbi.nlm.nih.gov/pubmed/11503899

"Vaccines developed traditionally following empirical approaches have often limited problems of immunogenicity, probably due to the low level of purity of the active component(s) they contain."

Vaccine • October 2001

What are the limits of adjuvanticity?

Del Giudice G1, Podda A, Rappuoli R.

IRIS Research Center, Chiron SpA
Via Fiorentina 1, 53100, Siena, Italy

Abstract

Vaccines developed traditionally following empirical approaches have often limited problems of immunogenicity, probably due to the low level of purity of the active component(s) they contain. The application of new technologies to vaccine development is leading to the production of purer (e.g. recombinant) antigens which, however, tend to have a poorer immunogenicity as compared to vaccines of the previous generation. The search for new vaccine adjuvants involves issues related to their potential limits. Since the introduction of aluminium salts as vaccine adjuvants more than 70 years ago, only one adjuvant has been licensed for human use. The development of some of these new vaccine adjuvants has been hampered by their unacceptable reactogenicity. In addition, some adjuvants work strongly with some antigens but not with others, thus, limiting their potentially widespread use. The need to deliver vaccines via alternative routes of administration (e.g. the mucosal routes) in order to enhance their efficacy and compliance has set new requirements in basic and applied research to evaluate their efficacy and safety. Cholera toxin (CT) and labile enterotoxin (LT) mutants given along with intranasal or oral vaccines are strong candidates as mucosal adjuvants. Their potential reactogenicity is still matter of discussions, although available data support the notion that the effects due to their binding to the cells and those due to the enzymatic activity can be kept separated. Finally, adjuvanticity is more often evaluated in terms of antigen-specific antibody titers induced after parenteral immunization. It is known that, in many instances, antigen-specific antibody titers do not correlate with protection. In addition, very little is known on parameters of cell-mediated immunity which could be considered as surrogates of protection. Tailoring of new adjuvants for the development of vaccines with improved immunogenicity/efficacy and reduced reactogenicity will represent one of the major challenges of the ongoing vaccine-oriented research.

http://www.ncbi.nlm.nih.gov/pubmed/11587808

Washington DC National Academies Press (US) 1991
The National Academies Collection
Reports funded by National Institutes of Health

Howson CP, Howe CJ, Fineberg HV, editors

Adverse Effects of Pertussis and Rubella Vaccines: A Report of the Committee to Review the Adverse Consequences of Pertussis and Rubella Vaccines

Excerpt

Parents have come to depend on vaccines to protect their children from a variety of diseases. Some evidence suggests, however, that vaccination against pertussis (whooping cough) and rubella (German measles) is, in a small number of cases, associated with increased risk of serious illness. This book examines the controversy over the evidence and offers a comprehensively documented assessment of the risk of illness following immunization with vaccines against pertussis and rubella. Based on extensive review of the evidence from epidemiologic studies, case histories, studies in animals, and other sources of information, the book examines: The relation of pertussis vaccines to a number of serious adverse events, including encephalopathy and other central nervous system disorders, sudden infant death syndrome, autism, Guillain-Barre syndrome, learning disabilities, and Reye syndrome. The relation of rubella vaccines to arthritis, various neuropathies, and thrombocytopenic purpura. The volume, which includes a description of the committee's methods for evaluating evidence and directions for future re- search, will be important reading for public health officials, pediatricians, researchers, and concerned parents.

Full Report
http://www.ncbi.nlm.nih.gov/pubmed/25121241

"that the evidence is consistent with a causal relation between DPT vaccine and acute encephalopathy, shock and "unusual shock-like state," and between RA 27/3 rubella vaccine and chronic arthritis; and that the evidence indicates a causal relation between DPT vaccine and anaphylaxis, between the pertussis component of DPT vaccine and protracted, inconsolable crying, and between RA 27/3 rubella vaccine and acute arthritis."

JAMA • January 1992

Adverse events following pertussis and rubella vaccines Summary of a report of the Institute of Medicine

By Howson CP1, Fineberg HV.
Institute of Medicine National
Academy of Sciences Washington, DC 20418

Abstract

In August 1991, the Institute of Medicine released a report entitled Adverse Effects of Pertussis and Rubella Vaccines, which examined 18 adverse events in relation to diphtheria- tetanus-pertussis (DTP) vaccine and four adverse events in relation to the currently used rubella vaccine strain, RA 27/3. The committee spent 20 months reviewing a wide range of information sources, including case series and individual case reports, both published and unpublished, epidemiologic studies, studies in animals, and other laboratory studies. The committee found that the evidence indicates a causal relation between DTP vaccine and anaphylaxis and between the pertussis component of DTP vaccine and extended periods of inconsolable crying or screaming. The committee also reported that the evidence indicates a causal relation between the rubella vaccine and acute arthritis in adult women. The committee found the available evidence weaker but still consistent with a causal relation be- tween DTP vaccine and two conditions--acute encephalopathy and hypotonic, hyporesponsive episodes--and between rubella vaccine and chronic arthritis in adult women. Estimated incidence rates of these adverse events following vaccination are provided, where possible. The committee found that the evidence does not indicate a causal relation between the DTP vaccine and infantile spasms, hypsarrhythmia, Reye's syndrome, and sudden infant death syndrome. The committee found insufficient evidence to indicate either the presence or absence of a causal relation between DTP vaccine and chronic neurologic damage, aseptic meningitis, erythema multiforme or other rash, Guillain-Barré syndrome, hemolytic anemia, juvenile diabetes, learning disabilities and attention-deficit disorder, peripheral mono- neuropathy, or thrombocytopenia, and between rubella vaccine and radiculoneuritis and other neuropathies or thrombocytopenic purpura. The committee's evaluative methods are briefly described and a summary of research needs is provided.

http://www.ncbi.nlm.nih.gov/pubmed/1727962

"The committee found that the evidence indicates a causal relation between DTP vaccine and anaphylaxis and between the pertussis component of DTP vaccine and extended periods of inconsolable crying or screaming. The committee also reported that the evidence indicates a causal relation between the rubella vaccine and acute arthritis in adult women.

The committee found the available evidence weaker but still consistent with a causal relation between DTP vaccine and two conditions—acute encephalopathy and hypotonic, hyporesponsive episodes—and between rubella vaccine and chronic arthritis in adult women."

Posted on Authorea, January 21st, 2022
This a preprint and has not been peer reviewed. Data may be preliminary

Innate Immune Suppression By SARS-CoV-2 mRNA Vaccinations: The Role Of G-quadruplexes, Exosomes And MicroRNAs

Stephanie Seneff1, Greg Nigh2,
Anthony M. Kyriakopoulos3, and Peter A McCullough4

1. Senior Research Scientist, Computer Science and Artificial Intelligence Laboratory
MIT, Cambridge MA USA 02139
2. Naturopathic Oncologist, Immersion Health, Portland, OR 97214, USA
3. Director and Head of Research and Development, Nasco AD Biotechnology Laboratory
Department of Research and Development, Sachtouri 11, 18536, Piraeus, Greece
4. Chief Medical Advisor, Truth for Health Foundation, Tucson, AZ USA

Abstract

The mRNA SARS-CoV-2 vaccines were brought to market in response to the widely perceived public health crises of Covid-19. The utilization of mRNA vaccines in the context of infectious disease had no precedent, but desperate times seemed to call for desperate measures. The mRNA vaccines utilize genetically modified mRNA encoding spike proteins. These alterations hide the mRNA from cellular defenses, promote a longer biological half-life for the proteins, and provoke higher overall spike protein production. However, both experimental and observational evidence reveals a very different immune response to the vaccines compared to the response to infection with SARS-CoV-2. As we will show, the genetic modifications introduced by the vaccine are likely the source of these differential responses. In this paper, we present the evidence that vaccination, unlike natural infection, induces a profound impairment in type I interferon signaling, which has diverse adverse consequences to human health. We explain the mechanism by which immune cells release into the circulation large quantities of exosomes containing spike protein along with critical microRNAs that induce a signaling response in recipient cells at distant sites. We also identify potential profound disturbances in regulatory control of protein synthesis and cancer surveillance. These disturbances are shown to have a potentially direct causal link to neurodegenerative disease, myocarditis, immune thrombocytopenia, Bell's palsy, liver disease, impaired adaptive immunity, increased tumorigenesis, and DNA damage. We show evidence from adverse event reports in the VAERS database supporting our hypothesis. We believe a comprehensive risk/benefit assessment of the mRNA vaccines excludes them as positive contributors to public health, even in the context of the Covid-19 pandemic.

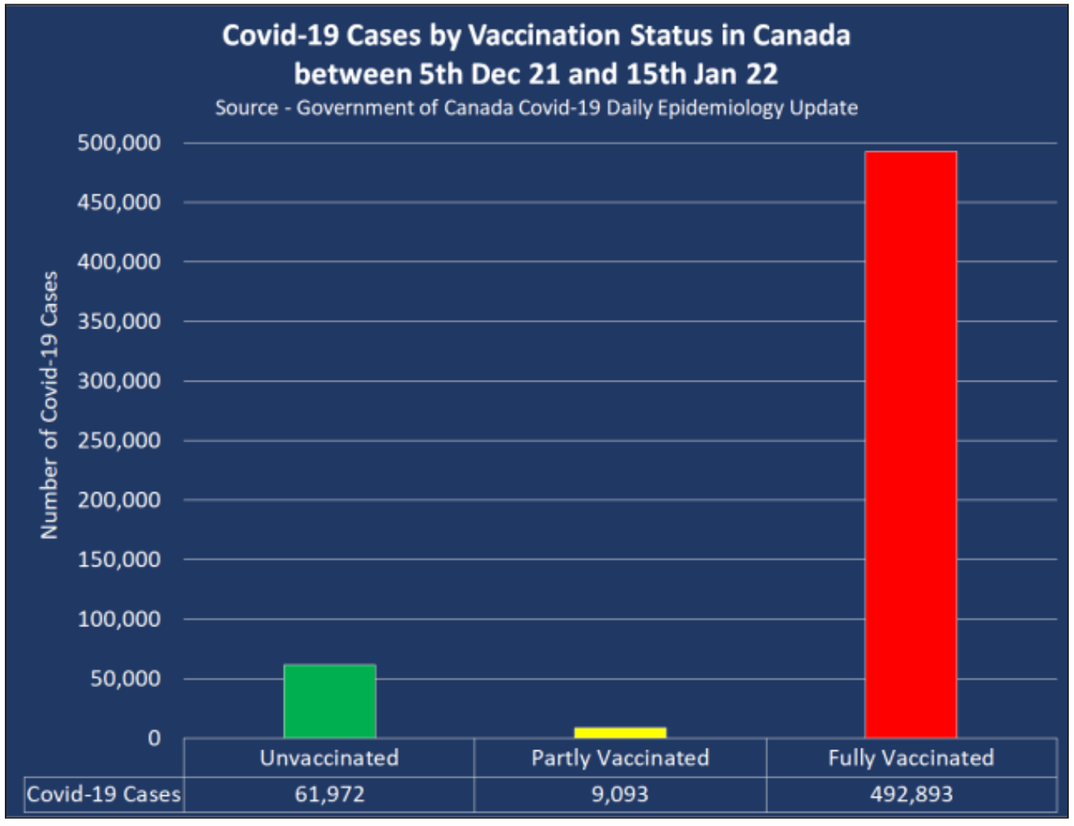
https://d197for5662m48.cloudfront.net/documents/publicationstatus/75311/preprint_pdf/7204e73a5bc787e851c8d15a3e538ec7.pdf

A Pandemic Of The Vaccinated

Canada Data Showing The Vaccinated Are Mostly Infected

Yes, still more data to destroy delusion

Just more data that dispel the propaganda that COVID vaccines work:



"The observations of this study as well as those of similar studies suggest that vaccine failures contributed to the genesis of the epidemic."

Canadian Medical Association Journal • November 1975

Analysis of a measles epidemic: possible role of vaccine failures

W. E. Rawls, M. L. Rawls, and M. A. Chernesky

Abstract

A measles epidemic occurred in the Greensville (Ont.) Unit schools during January and February 1975. There were 47 cases of measles in 403 students: 26 (55%) of the children had a history of being vaccinated and 18 (38%) had not been vaccinated. Among children known to have been vaccinated at less than 1 year of age 7 of 13 contracted measles, while among the 48 children who had not been vaccinated 18 contract- ed measles. The attack rate among vaccinees increased with increasing time since vaccination. The observations of this study as well as those of similar studies suggest that vaccine failures contributed to the genesis of the epidemic. It is recommended that all children initially vaccinated at less than 1 year of age should be revaccinated with live attenuated measles virus vaccine.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1956577/

THE MEDIA

During every Measles Outbreak in the US the media spews the same false narrative: the outbreak is/was caused by the unvaccinated. Yet the data here, above, and CDC data on the following page spread shows primary and secondary vaccine failure are the cause of outbreaks and outbreaks can take place in a population with a 100% vaccination rate and have, as you'll read.

"As an example, in a little noted study from Germany by Eibl et al. [11], a significant, though temporary, drop of T-Helper lymphocytes was found in 11 healthy adults following routine tetanus booster vaccinations. Special concern rests in the fact that, in four of the subjects, T-helper lymphocytes fell to levels seen in active AIDS patients."

New England Journal Of Medicine • January 1984

Abnormal T-lymphocyte subpopulations in healthy subjects after tetanus booster immunization

Eibl MM, Mannhalter JW, Zlabinger G.

"By way of explanation, a vaccine safety test is one in which before-and-after vaccine tests are performed, specifically designed to test for possible adverse effects on the neurological, immunological, hematologic, genetic, and other systems of the body, in sufficient numbers of test subjects and controls to be statistically significant. As an example, in a little noted study from Germany by Eibl et al. [11], a significant, though temporary, drop of T-Helper lymphocytes was found in 11 healthy adults following routine tetanus booster vaccinations. Special concern rests in the fact that, in four of the subjects, T-helper lymphocytes fell to levels seen in active AIDS patients."

Report available for purchase:
http://www.ncbi.nlm.nih.gov/pubmed/?term=6228737

"This outbreak demonstrates that transmission of measles can occur within a school population with a documented immunization level of 100%. This level was validated during the outbreak investigation."

CDC • June 22, 1984

MMWR Weekly

From December 9, 1983, to January 13, 1984, 21 cases of measles occurred in Sangamon County, Illinois.* Nine of the cases were confirmed serologically. The outbreak involved 16 high school students, all of whom had histories of measles vaccination after 15 months of age documented in their school health records. Of the five remaining cases, four occurred in unvaccinated preschool children, two of whom were under 15 months of age, and one case occurred in a previously vaccinated college student (Figure 5).

The affected high school had 276 students and was in the same building as a junior high school with 135 students. A review of health records in the high school showed that all 411 students had documentation of measles vaccination on or after the first birthday, in accordance with Illinois law.

Measles vaccination histories were obtained from the school health records of all 276 senior high school students. Risk of infection was not significantly associated with type of vaccine, medical provider, age at most recent vaccination, or revaccination. All the students with measles had received their most recent vaccinations after 15 months of age. However, the measles attack rate increased with increasing years since most recent vaccination (p = 0.024) (Table 3). The attack rate was four times greater for students vaccinated 10 or more years before the outbreak than for students vaccinated more recently (p 0.05). When these data are corrected for the number of vaccinations, the trend was still observed and achieved a borderline level of statistical significance (p = 0.07). Age at first or last vaccination was not a confounding variable.

The index patient, Student A, was a 17-year-old male in the 11th grade; he was present in school with a productive cough for 3 consecutive days before his onset of rash. The source of his infection was not identified. Nine students with first-generation cases developed onset of rash 10-14 days after exposure to Student A (Figure 5). The attack rate was 6% (16/276) for senior high school students and 0% (0/135) for junior high school students. The highest attack rate was 12% (9/74) for the 11th grade students (p 0.02).

Repeated and close exposure to Student A was associated with a greater risk of illness (Table 4). The eight patients with first-generation cases who attended the high school were used to analyze the degree of exposure to Student A. The measles attack rate was 3% for students who did have classroom exposure to Student A versus 2% for those who did not. Moreover, the attack rate was 21% for students whom Student A identified as "close friends" from the school enrollment roster, compared with 2% for students not so identified (p 0.001).

Editorial Note

This outbreak demonstrates that transmission of measles can occur within a school population with a documented immunization level of 100%. This level was validated during the outbreak investigation. Previous investigations of measles outbreaks among highly immunized populations have revealed risk factors such as improper storage or handling of vaccine, vaccine administered to children under 1 year of age, use of globulin with vaccine, and use of killed virus vaccine (1-5). However, these risk factors did not adequately explain the occurrence of this outbreak. If waning immunity is not a problem, this outbreak suggests that measles transmission can occur within the 2%-10% of expected vaccine failures (5,7). However, transmission was not sustained beyond 36 days in this outbreak, and community spread was principally among unvaccinated preschool children. The infrequent occurrence of measles among highly vaccinated persons suggests that this outbreak may have resulted from chance clus- tering of otherwise randomly distributed vaccine failures in the community. That measles transmission can occur among vaccine failures makes it even more important to ensure persons are adequately vaccinated. Had there been a substantial number of unvaccinated or inadequately vaccinated students in the high school and the community, transmission in Sangamon County probably would have been sustained.

http://www.cdc.gov/mmwr/preview/mmwrhtml/00000359.htm

"However, to date, there is no definite evidence showing the vaccine reduces the incidence of invasive cervical carcinoma."

Obstetrics & Gynecology • February 2009

Cervical cancers after human papillomavirus vaccination

By Beller U1, Abu-Rustum NR.

Abstract

BACKGROUND

Current randomized clinical trials have shown that the quadrivalent human papillomavirus (HPV) vaccine can reduce the morbidity of precancerous lesions associated with HPV infection of vaccine-related subtypes. However, to date, there is no definite evidence showing the vaccine reduces the incidence of invasive cervical carcinoma.

CASES

We present two cases—one young, vaccinated woman who developed cervical carcinoma that was unrelated to HPV and an- other who developed cervical carcinoma secondary to infection with an HPV subtype not covered by the vaccine. Both patients were treated successfully and remained well without evidence of cancer.

CONCLUSION

Long-term follow-up data are needed to evaluate the prophylactic effectiveness of the current HPV vaccine. These cases could represent non-vaccine-related HPV infections. Young women must be thoroughly counseled about the efficacy and limitations of the vaccine and about continuing lifelong screening even after vaccination.

http://www.ncbi.nlm.nih.gov/pubmed/?term=19155953

"We report five patients who presented with multifocal or atypical demyelinating syndromes within 21 days of immunization with the quadrivalent human papilloma virus (HPV) vaccine, Gardasil ... association with demyelinating events in these cases may be explained by the potent immuno-stimulatory properties of HPV virus-like particles which comprise the vaccine."

Multiple Sclerosis • January 2009

CNS demyelination and quadrivalent HPV vaccination

Sutton I1, Lahoria R, Tan I, Clouston P, Barnett M.

Department of Neurology
St Vincent's Hospital Darlinghurst, New South Wales Australia

Abstract

Vaccination is generally considered safe in patients with multiple sclerosis (MS). We report five patients who presented with multifocal or atypical demyelinating syndromes within 21 days of immunization with the quadrivalent human papilloma virus (HPV) vaccine, Gardasil. Although the target population for vaccination, young females, has an inherently high risk for MS, the temporal association with demyelinating events in these cases may be explained by the potent immuno-stimulatory properties of HPV virus-like particles which comprise the vaccine. A prospective case- control study of patients with MS or clinically isolated demyelinating syndromes receiving the Gardasil vaccine may provide relevant safety data in this population.

http://www.ncbi.nlm.nih.gov/pubmed/?term=18805844

"These nine cases represent secondary vaccine failures. An additional four cases occurred in the 13 subjects with primary vaccine failure. We conclude that secondary vaccine failures occur and that while primary failures account for most cases, secondary vaccine failures contribute to the occurrence of measles cases in an epidemic."

American Journal Of Public Health • April 1989

The role of secondary vaccine failures in measles outbreaks

By Mathias RG1, Meekison WG, Arcand TA, Schechter MT.

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Abstract

An outbreak of measles in 1985-86 in a community where measles vac- cine trials had been carried out from 1974-76 allowed the assessment of the role of secondary vaccine failures in previously immunized children. A total of 188 children from the vaccine trial were followed. Of these, 175 seroconverted initially while 13 (6 per cent) required re-immunization (primary failure). A total of 13 cases of measles, eight of which were laboratory and/or physician-confirmed, were reported in this cohort. Of these, nine cases occurred in the 175 subjects who had hemagglutination inhibition test (HI) and neutralizing antibody responses following the initial immunization. These nine cases represent secondary vaccine failures. An additional four cases occurred in the 13 subjects with primary vaccine failure. We conclude that secondary vaccine failures occur and that while primary failures account for most cases, secondary vaccine failures contribute to the occurrence of measles cases in an epidemic. A booster dose of measles vaccine may be necessary to reduce susceptibility to a sufficiently low level to allow the goal of measles elimination to be achieved.

http://www.ncbi.nlm.nih.gov/pubmed/2929807

"Among 630,157 recipients of measles-mumps-rubella trivalent (MMR) vaccine containing the Urabe Am9 mumps vaccine, there were at least 311 meningitis cases suspected to be vaccine-related. In 96 of these 311 cases, mumps virus related to the vaccine was isolated from cerebrospinal fluid."

Pediatric Infectious Disease Journal • March 1991

Aseptic meningitis as a complication of mumps vaccination

By Sugiura A1, and Yamada A.

Department of Measles
Virus National Institute of Health Tokyo, Japan

Abstract

In 1989 a nationwide surveillance of neurologic complications after the administration of mumps vaccine was conducted in Japan, based on the notification of cases and the testing of mumps viruses isolated from cerebrospinal fluid for their relatedness to the vaccine by nucleotide sequence analysis. Among 630,157 recipients of measles- mumps-rubella trivalent (MMR) vaccine containing the Urabe Am9 mumps vaccine, there were at least 311 meningitis cases suspected to be vaccine-related. In 96 of these 311 cases, mumps virus related to the vaccine was isolated from cerebrospinal fluid. The unusually high incidence may have been partly a result of the adverse media publicity of the problem at the time of surveillance. We analyzed clinical features of 165 and 27 laboratory-confirmed mumps vaccine-related meningitis cases that occurred among the recipients of MMR and monovalent mumps vaccines, respectively, during a 1-year period after the introduction of MMR vaccine. The incidence of vaccine- related meningitis was similar among the recipients of MMR and monovalent Urabe Am9 mumps vaccines. Meningitis was generally mild and there were no sequelae from the illness. The complication was more frequent among male than among female children.

http://www.ncbi.nlm.nih.gov/pubmed/2041668

"These two different ADE risks have possible implications for SARS-CoV-2 B-cell vaccines for subsets of populations based on age, cross-reactive antibodies, variabilities in antibody levels over time, and pregnancy. These models place increased emphasis on the importance of developing safe SARS-CoV-2 T-cell vaccines that are not dependent upon antibodies."

Frontiers Immunology
February 24, 2021 • doi: 10.3389/fimmu.2021.640093

Two Different Antibody-Dependent Enhancement (ADE) Risks for SARS-CoV-2 Antibodies

By Darrell O Ricke

Biological and Chemical Technologies, Massachusetts Institute of Technology Lincoln Laboratory, Biotechnology and Human Systems, Lexington, MA, United States

Excerpt

ADE risks associated with SARS-CoV-2 has implications for COVID-19 and MIS-C treatments, B-cell vaccines, SARS-CoV-2 antibody therapy, and convalescent plasma therapy for patients. SARS-CoV-2 antibodies bound to mast cells may be involved in MIS-C and multisystem inflammatory syndrome in adults (MIS-A) following initial COVID-19 infection. SARS-CoV-2 antibodies bound to Fc receptors on macrophages and mast cells may represent two different mechanisms for ADE in patients. These two different ADE risks have possible implications for SARS-CoV-2 B-cell vaccines for subsets of populations based on age, cross-reactive antibodies, variabilities in antibody levels over time, and pregnancy. These models place increased emphasis on the importance of developing safe SARS-CoV-2 T cell vaccines that are not dependent upon antibodies.

Conflict of interest statement
The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

https://pubmed.ncbi.nlm.nih.gov/33717193/

Nature
August 2020 • doi: 10.1038/s41586-020-2538-8

A perspective on potential antibody-dependent enhancement of SARS-CoV-2

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Abstract

Antibody-dependent enhancement (ADE) of disease is a general concern for the development of vaccines and antibody therapies because the mechanisms that underlie antibody protection against any virus have a theoretical potential to amplify the infection or trigger harmful immunopathology. This possibility requires careful consideration at this critical point in the pandemic of coronavirus disease 2019 (COVID-19), which is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Here we review observations relevant to the risks of ADE of disease, and their potential implications for SARS-CoV-2 infection. At present, there are no known clinical findings, immunological assays or biomarkers that can differentiate any severe viral infection from immune-enhanced disease, whether by measuring antibodies, T cells or intrinsic host responses. In vitro systems and animal models do not predict the risk of ADE of disease, in part because protective and potentially detrimental antibody-mediated mechanisms are the same and designing animal models depends on understanding how antiviral host responses may become harmful in humans.

The implications of our lack of knowledge are twofold. First, comprehensive studies are urgently needed to define clinical correlates of protective immunity against SARS-CoV-2. Second, because ADE of disease cannot be reliably predicted after either vaccination or treatment with antibodies-regardless of what virus is the causative agent-it will be essential to depend on careful analysis of safety in humans as immune interventions for COVID-19 move forward.

https://pubmed.ncbi.nlm.nih.gov/32659783/

Reviews In Natural Microbiology
October 5th, 2020 • doi: 10.1038/s41564-020-00789-5

Antibody-dependent enhancement and SARS-CoV-2 vaccines and therapies

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Abstract

Antibody-based drugs and vaccines against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) are being expedited through preclinical and clinical development. Data from the study of SARS-CoV and other respiratory viruses suggest that anti-SARS-CoV-2 antibodies could exacerbate COVID-19 through antibody-dependent enhancement (ADE). Previous respiratory syncytial virus and dengue virus vaccine studies revealed human clinical safety risks related to ADE, resulting in failed vaccine trials. Here, we describe key ADE mechanisms and discuss mitigation strategies for SARS-CoV-2 vaccines and therapies in development. We also outline recently published data to evaluate the risks and opportunities for antibody-based protection against SARS-CoV-2.

https://pubmed.ncbi.nlm.nih.gov/32908214/

"Thus, ADE may be a concern for people receiving vaccines based on the original Wuhan strain spike sequence (either mRNA or viral vectors)."

Comment in the Journal Infections
November 8th, 2021 • doi: 10.1016/j.jinf.2021.08.010

Infection-enhancing anti-SARS-CoV-2 antibodies recognize both the original Wuhan/D614G strain and Delta variants. A potential risk for mass vaccination?

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Antibody dependent enhancement (ADE) of infection is a safety concern for vaccine strategies. In a recent publication, Li et al. (Cell 184 :4203-4219, 2021) have reported that infection-enhancing antibodies directed against the N-terminal domain (NTD) of the SARS-CoV-2 spike protein facilitate virus infection in vitro, but not in vivo. However, this study was performed with the original Wuhan/D614G strain. Since the Covid-19 pandemic is now dominated with Delta variants, we analyzed the interaction of facilitating antibodies with the NTD of these variants. Using molecular modeling approaches, we show that enhancing antibodies have a higher affinity for Delta variants than for Wuhan/D614G NTDs. We show that enhancing antibodies reinforce the binding of the spike trimer to the host cell membrane by clamping the NTD to lipid raft microdomains. This stabilizing mechanism may facilitate the conformational change that induces the demasking of the receptor binding domain. As the NTD is also targeted by neutralizing antibodies, our data suggest that the balance between neutralizing and facilitating antibodies in vaccinated individuals is in favor of neutralization for the original Wuhan/D614G strain. However, in the case of the Delta variant, neutralizing antibodies have a decreased affinity for the spike protein, whereas facilitating antibodies display a strikingly increased affinity. Thus, ADE may be a concern for people receiving vaccines based on the original Wuhan strain spike sequence (either mRNA or viral vectors). Under these circumstances, second generation vaccines with spike protein formulations lacking structurally-conserved ADE-related epitopes should be considered.

https://pubmed.ncbi.nlm.nih.gov/34384810/

"This analysis confirmed higher concentrations of endotoxin in whole-cell DTP vaccines compared with DTaP or DT vaccines. As high concentrations of endotoxin may be correlated with a higher incidence of adverse events ..."

Annals Of Pharmacotherapeutics • May 2002

Clinical implications of endotoxin concentrations in vaccines

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Abstract

BACKGROUND: A previous study suggested that high concentrations of endotoxin may be present in whole-cell diphtheria/tetanus/pertussis (DTP) vaccine, and the scientific literature contains many studies examining the reactivity of whole-cell DTP vaccine. The medical and scientific communities have previously reported that the presence of endotoxin in commercial vaccines may have negative effects on vaccine recipients.
OBJECTIVE: To determine the endotoxin concentrations in whole-cell DTP, acellular DTP(DTaP), and DT vaccines and determine the clinical experience with each vaccine.
METHODS: To study the endotoxin concentrations in vaccines, the Limulus amebocyte lysate (LAL) assay was used. The vaccines analyzed with the LAL assay were whole-cell DTP vaccine lots manufactured by Connaught, Lederle, the Michigan and Massachusetts Departments of Health, and Wyeth; DTaP vaccine lots manufactured by Merieux and Takeda; and DT vaccine lots manufactured by Wyeth and Lederle. The incidence of adverse reactions following whole-cell DTP, DTaP, and DT vaccines were determined based on analysis of the Vaccine Adverse Events Reporting System (VAERS) database.
RESULTS: The results of the LAL assay showed that whole-cell DTP vaccines contained considerably more endotoxin than either DTaP or DT vaccines. The VAERS showed that statistically significantly more adverse reactions were associated with whole-cell DTP vaccine than DTaP or DT vaccines.
CONCLUSIONS: This analysis confirmed higher concentrations of endotoxin in whole-cell DTP vaccines compared with DTaP or DT vaccines. As high concentrations of endotoxin may be correlated with a higher incidence of adverse events, the switch from whole-cell DTP to DTaP for routine vaccinations in the US seems well justified.

http://www.ncbi.nlm.nih.gov/pubmed/?term=11978151

"We hypothesize that some of the apparent adverse reactions to the vaccine could be due to a process called of molecular mimicry, the Hepatitus B Virus polymerase, which could be a contaminant in the recombinant or plasma-derived vaccines, could act as autoantigens and induce autoimmune demyelinating diseases such as multiple sclerosis."

Medical Hypotheses • 2005

Multiple sclerosis and hepatitis B vaccination: could minute contamination of the vaccine by partial hepatitis B virus polymerase play a role through molecular mimicry?

Faure E.

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Place Victor Hugo 13331 Marseilles cedex 3, France eric.faure@up.univ-mrs.fr

Abstract

Reports of multiple sclerosis developing after hepatitis B vaccination have led to the concern that this vaccine might be a cause of multiple sclerosis in previously healthy subjects. Some articles evidenced that minor Hepatitis B virus (HBV) polymerase proteins could be produced by alternative transcriptional or translational strategies. Their detection is very difficult because they are in minute concentration and probably enzymatically inactive, however, it was shown that they could be ex- posed on the outside of the virus particles and also be immunogenic. In addition, HBV polymerase shares significant amino acid similarities with the human myelin basic protein. We hypothesize that some of the apparent adverse reactions to the vaccine could be due to a process called of molecular mimicry, the HBV polymerase, which could be a contaminant in the recombinant or plasma-derived vaccines, could act as autoantigens and induce autoimmune demyelinating diseases such as multiple sclerosis.

http://www.ncbi.nlm.nih.gov/pubmed/15908138

In the peer reviewed report,

‘Novel Pebbles In The Mosaic Of Autoimmunity’

the authors write,

“An entirely new syndrome, the autoimmune/inflammatory syndrome induced by adjuvants (ASIA), has been recently described. This is the new wind blowing within the branches of autoimmunity ..”.

From the Journal Lupus • September 2015

Human adjuvant-related syndrome or autoimmune/inflammatory syndrome induced by adjuvants. Where have we come from? Where are we going? A proposal for new diagnostic criteria.

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Abstract

In 1964, Miyoshi reported a series of patients with diverse symptoms after receiving treatment with silicone or paraffin fillers. Miyoshi named this condition ‘human adjuvant disease’. Since then, the literature has been flooded with case reports and case series of granulomatous and systemic autoimmune disorders related to vaccines, infection or other adjuvants such as silicone and other biomaterials. A new term -autoimmune/inflammatory syndrome induced by adjuvants - has recently been coined for a process that includes several clinical features previously described by Miyoshi plus other clinical and laboratory parameters related to exposure to diverse external stimuli. Disorders such as siliconosis, Gulf War syndrome, macrophagic myofasciitis syndrome, sick building syndrome and post-vaccination syndrome have been included in autoimmune/inflammatory syndrome induced by adjuvants. Disorders such as Spanish toxic oil syndrome and Ardystil syndrome could also be included. Further- more, biomaterials other than silicone should also be considered as triggering factors for these adjuvant-related syndromes. New diagnostic criteria in this field have been proposed. Nevertheless, many of these criteria are too subjective, leading to some patients being diagnosed with chronic fatigue syndrome or other ‘central sensitization syndromes’. Diagnostic criteria based only on objective clinical and laboratory data to be further discussed and validated are proposed herein.

http://www.ncbi.nlm.nih.gov/pubmed/25813870

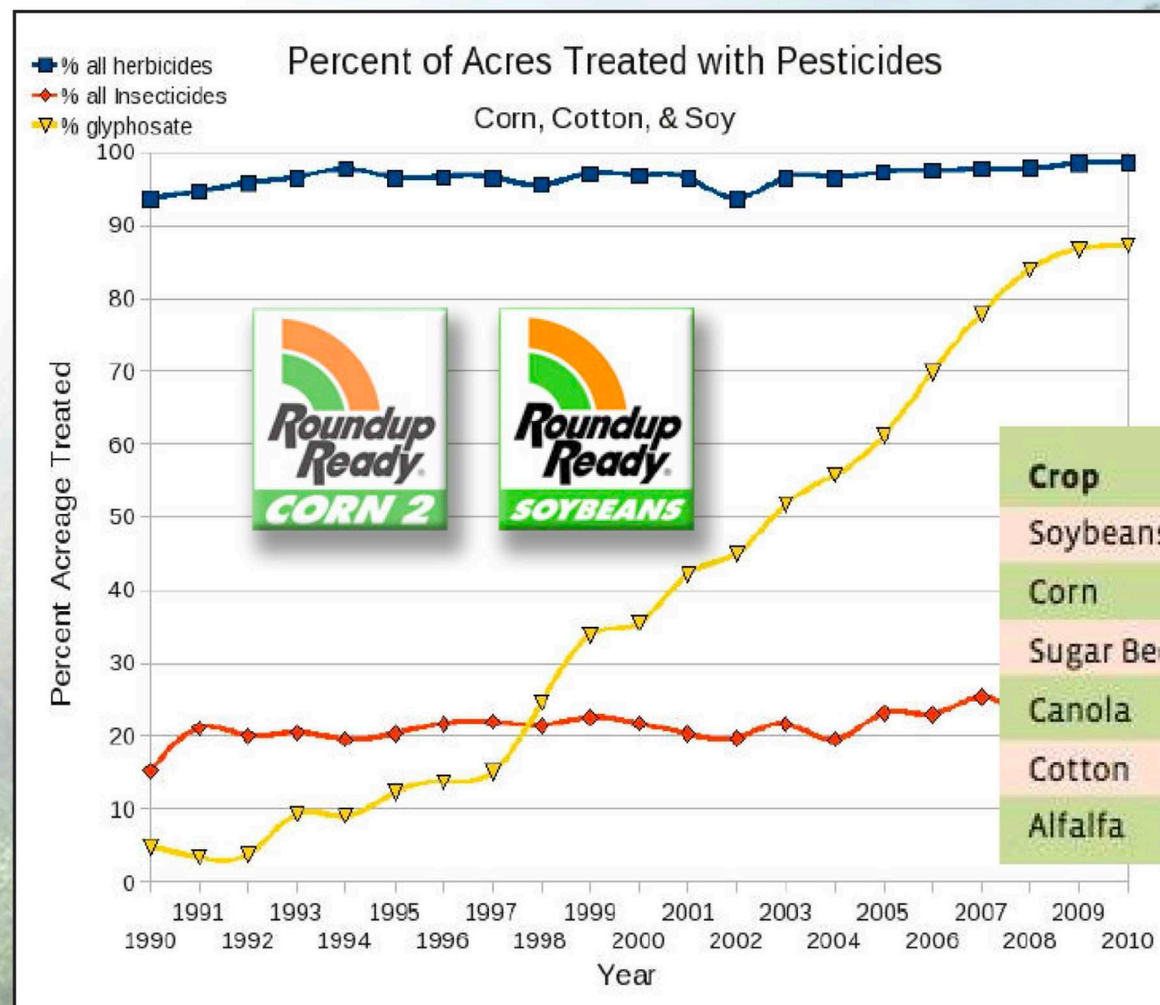
“Since then, the literature has been flooded with case reports and case series of granulomatous and systemic autoimmune disorders related to vaccines ...”

CHAPTER FOUR

GLYPHOSATE

Percentage of U.S. Acres Treated with Pesticides 1990 – 2010

Glyphosate (in Yellow) is the key ingredient in Monsanto's Roundup



Crop	% GMO in the US	Major GMO varieties
Soybeans	93	RoundUp Ready®
Corn	90	RoundUp Ready® & Bt
Sugar Beets	95	RoundUp Ready®
Canola	90	RoundUp Ready®
Cotton	90	RoundUp Ready® & Bt
Alfalfa	Not reported	RoundUp Ready®

You Might Be Putting Your Life At Risk And Paying For The Privilege

By Jeff Prager

There aren't enough pages to convey all of my thoughts, theories, known facts, known unknowns, unknown unknowns, as Don said, to say everything that I want to say about GMOs, GMO seeds and the related pesticides, but I'll try to be brief as brief as possible and provide the peer review.

GMO foodstuffs, their seeds and their related pesticides kill aquatic animals, soil bacteria and even humans over decades of consumption. It seems to kill smaller animals much more slowly. And while they don't kill for decades they do make all of us extremely ill often to the point of total disability. The single most recognized and fully acknowledged neurological disease caused by glyphosate and known and well documented by researchers in this field is the neurological affect of glyphosate contamination in even low doses in Parkinson's Disease. Glyphosate is one of the causes of Parkinson's. Causation is recognized and accepted.

The International Union Of Pure And Applied Cheistry (IUPAC) uses the name N-(phosphonomethyl) glycine. The rest of us call it glyphosate. The primary degradation product of glyphosate in plants, soil, water, animals, insects and humans is aminomethylphosphonic acid (AMPA) whose chemical structure is very similar to glyphosate anyway. By the way, AMPA is worse than urine or feces, which do have some commercial uses. APMA has no commercial use. And no long term study of the toxicity or carcinogenicity of AMPA has ever been carried out.

Glyphosate also bonds tightly to soil and affects the soil bacteria such that we may not have soil with a positive growth microbiome since glyphosate kills certain critically important soil bacteria. Glyphosate chelates, which means it removes valuable and necessary natural nutrients, mostly necessary metals, from the soil and is designed to prevent those nutrients from getting to the plant, starving the plant to death, so-to-speak.

The major human exposure to glyphosate is our food. Glyphosate is absorbed by the crops it's used on and becomes a part of our foodstuffs DNA. Glyphosate can't be washed off of fruits or vegetables because it's not on the outside, it's part of the plant and it's dispersed throughout the inside of that glyphosate dessicated fruit or vegetable. Even fish have a glyphosate load. Heating glyphosate, as in cooking some good looking vegetables saturated with 0.1, 0.5 or 1% glyphosate content can concentrate the glyphosate but extreme heat has absolutely no other affect on the pesticide. It remains toxic.

From a manuscript accepted for publication in Applied and Environmental Microbiology on December 14th, just a couple of memorably cold months ago titled, "Novel Isolate of Bacillus thuringiensis subsp. thuringiensis That Produces a Quasicuboidal Crystal of Cry1Ab21 Toxic to Larvae of Trichoplisia ni," researchers Swiecicka, Bideshi and Frederici reach the conclusion that our pesticides are altering the soil microbiome significantly by allowing some species to flourish and others to perish. The authors write: "As a consequence of widespread use" these various elements "could contribute to the evolution of resistance in insect populations to [certain] bacterial insecticides"

Swiecicka, Bideshi and Frederici reach the conclusion that our pesticides are altering the soil microbiome significantly by allowing some species to flourish and others to perish. The authors also write:

"As a consequence of widespread use, the evolution of resistance to these isolates or strains derived from them and the subsequent proliferation of resistant populations are of concern (20). For example, field populations of the diamondback moth, Plutella xylostella, and the cabbage looper, Trichoplusia ni, have already developed high levels of resistance due to repeated exposure to formulations based on HD1 (11, 26). Furthermore, in laboratory selection studies, resistance to B. thuringiensis has evolved in the pink bollworm, Pectionphora gossypiella, and the tobacco budworm, Heliothis virescens (13, 31). It is also thought that the selection pressure imposed by use of Cry proteins in transgenic plants (9, 31), most of which are based on Cry1Ac or Cry1Ab, could contribute to the evolution of resistance in insect populations to bacterial insecticides based on HD1."

Bending over backwards to cover the cost of their donations from Monsanto, et al., the US EPA proposed to hike the allowed residue limits—yet again, and did—of the herbicide glyphosate in various food and feed crops. Acceptable levels of glyphosate residue found in fruits and vegetables have been increased by The Environmental Protection Agency (EPA) as well. This happened in 2013 when the EPA quietly promoted the rule change regarding glyphosate levels without much attention from the media or the public.

Regulation raises glyphosate levels in oilseed crops, which include sesame, lax, and soybean, from 20 parts per million (ppm), to 40 ppm. It also raises the allowable glyphosate contamination level for sweet potatoes and carrots from 0.2 ppm to 3 ppm for sweet potatoes and 5ppm for carrots, that's 15 and 25 times the previous levels.

The change in tolerance levels affects several other agricultural products, including animal feed, root crops and fruit trees. While the regulation is effective beginning May 1, 2013, there was an open comment session, closing July 1, that received over 10,800 comments against the proposed change in regulation. Public commentary never has an impact or any bearing on the decision making process.

Glyphosate is used on over 150 crops in over 90 countries. First used in the 1970s, by 2007 glyphosate was the most widely used herbicide in US agriculture and second most widely used herbicide in the home and garden sector. In that year, the agricultural sector applied 180 to 185 million pounds, the home and garden sector applied five to eight million pounds, and industry, commerce and government applied 13 to 15 million pounds of glyphosate.

The rise in tolerance levels for glyphosate residue came as a result of a petition prepared by Monsanto in early 2012. While FDA did not perform independent tests on whether higher residue levels of glyphosate were dangerous to humans or the environment, it relied on tests and data provided by Monsanto. Alarmed, many activists believe that a rise in tolerance levels will allow farmers to spray food with more chemicals, which will increase health and environmental risks. While Monsanto (and by default the EPA) guarantees the safety of glyphosate in general and Round Up in particular, recent independent studies conclude the opposite. Even the EPA's technical factsheet on glyphosate states that chronic long-term exposure can cause kidney damage and reproductive effects. It also states that and there is "inadequate evidence" as to whether it can cause cancer.

A 2013 MIT study argues that glyphosate residue in food and water induces disease by disrupting normal cellular detoxifying functions. According to the study, "negative impact on the body is insidious and manifests slowly over time as inflammation damages cellular systems throughout the body." The damage is manifested in increased risk of gastrointestinal disorders, obesity, diabetes, heart disease,

depression, autism, infertility, cancer and Alzheimer's disease. In another recent European study, commissioned by Friends of The Earth (FoE) and GM Freeze, volunteers from 18 countries submitted urine samples to be tested for traces of glyphosate. All of the volunteers lived in cities and had never used or handled glyphosate prior to the test. Laboratory tests concluded that 44% of people had traces of glyphosate in their urine. The rate of positive samples varied by country, with Malta, Germany, the UK, and Poland having the highest rates and Switzerland and Macedonia having the lowest rates.

Finally, who other than Monsanto will benefit from this raise in tolerance levels in the long run? While farmers may benefit for a short while because being able to spray more herbicide may give them a larger crop yield, it may be possible that other countries will refuse to import U.S. produce due to the higher tolerance levels. After all, it was a little over a month ago that Japan refused to buy U.S. wheat after a strain of unapproved Monsanto GMO wheat was unexplainably found in an Oregon field. A week before that China incinerated three shipments of U.S. corn after discovering it contained unsanctioned GMO corn.

It is unclear whether the EPA took the above independent and other studies into account when making its decision to raise glyphosate residue tolerance levels in many of the foods we eat. Monsanto and corporate agriculture will argue, as they usually do, that the new tolerant levels are "insignificant" and could not harm humans. The research science itself, as you'll soon see, disagrees formidably.

Potential Health Effects of Foods Derived from Genetically Modified Plants: What Are the Issues?

By Arpad Pusztai and Susan Bardocz

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© Norsk institutt for genøkologi (GenØk), Tromsø,
and Tapir Academic Press, Trondheim, 2011

Alimentary Tract as the First Target of GM Food Risk Assessment

Excerpts

To show by chemical methods the presence of new toxins/allergens in GM food products is, at best, difficult. In contrast, the presence of even minute amounts of unexpected but harmful potent bioagents in GM foods could be more easily established from their possibly disproportionately large effect on health. Thus, exposure of individuals to biologically active transgenic proteins can have major effects on their gastrointestinal tract. As most proteins are immunogenic their consumption may trigger immune/allergic effects both in the mucosal immune system of the gut and the body. It is also likely that, in addition to the effects on the gastrointestinal tract, the size, structure, and function of other internal organs will be affected, particularly in young and rapidly growing humans or animals. According to

some recent unconfirmed reports, the dietary exposure to GM foods may also have harmful effects on reproduction (see Annex). In addition, the risks will also have to be investigated as to whether measurable amounts of the transgenic DNA constructs in GM crops/foods survive in a functionally active state/size in the gastrointestinal tract of the human/animal ingesting them, and whether they can incorporate into the genome of the cells of their gut and body organs and what will be the consequences, if any, for the individual.

GM potatoes of different origins may have common trophic effects on the gut. Changes in the ultrastructure of other organs, such as the liver, pancreas, etc., on feeding with GM crop containing diets, as shown by the work of the Malatesta group (for references see Pusztai & Bardocz 2006), may also be taken as a first indication of possible harmful effects that should make follow-up studies mandatory.

Changes in blood cells and blood protein levels in GM-fed animals may also suggest serious health problems, including disturbances in erithropoiesis, blood protein synthesis and the immune system. Thus, measurement of immune responsiveness could be a useful follow-up study when blood cell counts show significant differences in lymphocyte numbers that may point to one of the potentially serious hazards of the ingestion of GM foodstuffs (e.g. see our GM potato studies, Table 2). This is a particularly useful method because it is in general clinical use and could therefore be easily carried out with humans. Although no hormone assays were performed on rats fed GM or non-GM diets in our GM potato study, the consistently strong pancreatic growth stimulated by GM potato diets in the feeding studies suggests that this possibly was the result of the release of CCK (cholecystokinin) or some other humoral growth factor from the duodenum by an unknown growth/proliferative signal only found in the GM potatoes. Again, GNA (Galanthus nivalis lectin) could not be responsible for this because it does not stimulate the enlargement of the pancreas when fed to rats in its original source (Pusztai et al. 1990).

In addition to the changes in protein/metabolite profiles and the possible formation of new toxins and allergens in the plant resulting from the unanticipated effects of transgene insertion and the destabilization of the recipient genome and the interference with the expression of the plant's own genes, the effects of transgenic plant DNA should also be considered. Thus, it is essential in any risk assessment protocol to determine in humans/animals ingesting GM foods whether appreciable amounts of the DNA vector construct used for developing the GM plant survive in the gut in functional form, whether they are taken up and integrated into the genome of the individual, and what, if any, effects the foreign transgenic DNA will have on them.

GM soy — A senior Russian scientist, Irina Ermakova, published a rat reproductive study in which she examined the effect of glyphosate-resistant (RR) GM soybean seeds fed to pregnant female rats on the number and weight of pups delivered (Ermakova 2006). The study was originally published in Russian, and was heavily criticized for using coated seeds ready for planting instead of beans suitable for feed. The control non-GM soybean was not the isogenic parent line, either. However, because of the possible serious implications of the results of this study for humans and animals it should have been repeated and possibly verified by other scientists with the correct GM soybean diets. Indeed, she has repeatedly pleaded for this but no one dared to try to reproduce her experiments.

Recent Studies on Human Health Impacts of GM Crops

In her study rats were fed with laboratory rat chow and this diet was complemented with GM or conventional soybean for two weeks before mating, during the pregnancy and during suckling and the

body mass and the number of pups were observed (Table A1). The data indicated that on the GM soybean-supplemented rat chow significantly fewer pups were born, and with smaller body mass, than on the control non-GM soybeans.

Brasil et al. (2009) found that rats fed on GM soy showed altered morphology of the uterus and the ovaries: had greater volume density of endometrial glanular epithelium, reduced follicle number and increased corpus luteum numbers (a tendency to abort or less of a chance to get pregnant). Although the GM diet was not supplemented with cysteine as the other diets, and it is difficult to assess if the results were due to consumption of the transgenic soy itself or were due to the presence of glyphosate (and/or AMPA), always present in GM seeds, the findings are disturbing and warrant further studies. A recent study found that GM soy-fed animals have developed hair inside the oral cavity more often than control (Baranov et al. 2010).

The results of histological investigations by electron microscopy of cell nuclei revealed differences in fibrillar centers, dense fibrillar components and in the pore density of hepatocytes, and cells from the spleen and pancreas. This indicates metabolic differences caused by the GM diet in the cell nucleus of some internal organs. Micro array investigations of the small bowel tissue also showed significant differences between the GM- and non-GM-fed groups. Analyses of the metabolic pathways indicated differences in the activity of the interleukin-signaling pathway, cholesterol biosynthesis and in protein synthesis, metabolism and post-synthetic processing of proteins.

All the females fed the ISO line maize got pregnant all the time, while infertility of more females was observed in the GM maize-fed group, and this became significant by the fourth generation (Table A3). The number of pups was always fewer on GM, and the litter size was also smaller, but not statistically significantly for the first two deliveries, but it become significant for the 3rd and 4th litters (Table A3).

To summarize, in these experiments the GM maize had no influence on the life span of mice, but influenced their reproductive performance. Fewer pups with smaller body mass were produced by mothers fed the GM-containing diet, and more animals died before weaning. In the RACB study the differences become statistically significant with the 3rd and 4th litters. Although it is impossible to extrapolate from animal experiments to the human condition the results of these experiments demand that similar reproduction experiments must be incorporated in safety analysis protocols with all GM crops before they are commercialized. These results are all the more important because they have been obtained with GM crops already approved in the EU and several other countries.

This preliminary study has been criticized with regard to its statistical analysis. However, its findings remain a serious cause of concern that needs to be investigated further. Glyphosate is not a genetically modified product but because its use in agriculture is inseparable from the cultivation of herbicide-tolerant GM crops in a particular technology package, its effects on health need to be examined also with that of the glyphosate-resistant GM crops.

Although the declared aim of the introduction of glyphosate-resistant GM crops was that with these crops the amount of herbicide sprayed on the land should decrease, due to the ever-increasing area of cultivation of glyphosate-resistant Roundup Ready (RR) GM crops, the use of glyphosate has in fact increased (Benbrook 2004, 2009). The glyphosate-containing sprays destroy all weeds but the growth of the glyphosate-resistant GM crop is protected regardless of how much glyphosate is sprayed on to the land. To make sure that all weeds are destroyed the use of glyphosate and consequently the glyphosate load of the land has been substantially increasing after the first few years of a slight reduction (Benbrook 2004, 2009).

This has happened despite the ever-increasing number of publications showing that glyphosate has many serious and detrimental effects on the environment and biodiversity (Relyea 2005) with the development of herbicide-resistant weeds (Duke 2005; Owen and Zelaya 2005; Warwick et al. 2007; Loux et al. 2007; Zelaya et al. 2007). There is also an urgent need to consider the potentially seriously damaging effects of this total herbicide on human/animal health, particularly as it is used in large amounts. Indeed, there are a number of recently published papers that all indicate possible damaging effects of glyphosate on health and reproduction which need to be taken seriously.

By building on previous work the findings of French scientists (Marc et al. 2005) have confirmed and extended their previous results by showing that the main ingredient of commercial Roundup formulations, glyphosate, in a milimolar concentration range, particularly when used together with the obligatory polyoxyethylene amine surfactant, inhibited the transcription of one of the enzymes involved in hatching of sea urchin embryos and therefore significantly delayed their hatching.

When it is considered that farm workers inhale commercial herbicide sprays in which the active ingredient concentration exceeds by about 25 times of that used in the transcription inhibition studies by the French scientists, health concerns due to the use of glyphosate must be acute.

In another study it was shown that in the oral treatment of Wistar rats with increasing concentrations of the herbicide Glyphosate-Biocarb, a formulation used in many countries such as Brazil, the number of Kupffer cells in hepatic sinusoids increased, followed by large deposition of reticulin fibres and the leakage of hepatic aspartate-amino- transferase and alanine-aminotransferase into the circulation, indicating hepatic damage in these animals (Benedetti et al. 2004).

The work of another group of French researchers showed that glyphosate, particularly as used together with polyoxyethylene amine surfactant in Roundup Ready formulations, was toxic to human placental JEG3 cells at concentrations lower than that used in agricultural practices. Even at subtoxic concentrations RR was an endocrine disruptor on aromatase activity and its mRNA level as glyphosate interacted with the active site of the purified enzyme (Richard et al. 2005; Benachour et al. 2007). It is possible that the pregnancy problems in agricultural workers using Roundup may be traced back to the exposure to this herbicide (Savitz et al. 2000).

All these findings indicate that there is an urgent need to carry out systematic and direct studies, independent of the biotech industry, on the short- and long-term effects on animal (and human) health of exposure to glyphosate and its more effective commercial formulations alone and/or preferably in combination with the appropriate GM crop. With the presently cultivated huge areas of Roundup Ready crops and the anticipated even-larger future extensions of this glyphosate-dependent GM crop technology the potential danger for animal/human health needs to be dealt with in advance and not if or when it occurs. If we consider that RR soybeans may in themselves damage reproduction, a combination of the similar, possibly synergistic effects of the GM crop and glyphosate could be a potential disaster waiting to happen.

Source: https://www.twn.my/title2/biosafety/pdf/bio14.pdf

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Detection of Glyphosate Residues in Animals and Humans

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Abstract

In the present study glyphosate residues were tested in urine and different organs of dairy cows as well as in urine of hares, rabbits and humans using ELISA and Gas Chromatography-Mass Spectroscopy (GC-MS). The correlation coeficients between ELISA and GC-MS were 0.96, 0.87, 0.97and 0.96 for cattle, human, and rabbit urine and organs, respectively. The recovery rate of glyphosate in spiked meat using ELISA was 91%. Glyphosate excretion in German dairy cows was significantly lower than Danish cows. Cows kept in genetically modified free area had significantly lower glyphosate concentrations in urine than conventional husbandry cows. Also glyphosate was detected in different organs of slaughtered cows as intestine, liver, muscles, spleen and kidney. Fattening rabbits showed significantly higher glyphosate residues in urine than hares. Moreover, glyphosate was significantly higher in urine of humans with conventional feeding. Furthermore, chronically ill humans showed significantly higher glyphosate residues in urine than healthy population. The presence of glyphosate residues in both humans and animals could haul the entire population towards numerous health hazards, studying the impact of glyphosate residues on health is warranted and the global regulations for the use of glyphosate may have to be re-evaluated.

Conclusions

Chronically ill humans showed significantly higher glyphosate residues in urine than [the] healthy population. Exposure of mammals to glyphosate may cause loss of mitochondrial transmembrane potential and result in oxidative stress to liver and brain [27, 28]. Both apoptosis and autophagy are involved in glyphosate toxicity mechanisms [29] Case reports indicated that exposure to glyphosate was related to Parkinsonism [19, 30]. Glyphosate residue could reach humans and animals through feed and excreted in urine. Presence of glyphosate in urine and its accumulation in animal tissues is alarming even at low concentrations. Unknown impacts of glyphosate on human and animal health warrants further investigations of glyphosate residues in vertebrates and other non-target organisms.

Critical Reviews in Food Science and Nutrition
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Toxicity Studies of Genetically Modified Plants: A Review of the Published Literature

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According to the information reported by the WHO, the genetically modified (GM) products that are currently on the international market have all passed risk assessments conducted by national authorities. These assessments have not indicated any risk to human health. In spite of this clear statement, it is quite amazing to note that the review articles published in international scientific journals during the current decade did not find, or the number was particularly small, references concerning human and animal toxicological/health risks studies on GM foods.

In this paper, the scientific information concerning the potential toxicity of GM/transgenic plants using the Medline database is reviewed. Studies about the safety of the potential use of potatoes, corn, soybeans, rice, cucumber, tomatoes, sweet pepper, peas, and canola plants for food and feed were included. The number of references was surprisingly limited. Moreover, most published studies were not performed by the biotechnology companies that produce these products. This review can be concluded raising the following question: where is the scientific evidence showing that GM plants/food are toxicologically safe?

Although the WHO declares that the GM products that are currently on the international market have all passed risk assessment conducted by national authorities, in a review on the scientific literature performed in 2000, we were not able to find sufficient published information concerning that assessment (Domingo and Gomez, 2000).

In particular, the lack of published toxicological studies on adverse health effects was evident. Although a considerable number of commentaries, general news, and letters to the Editor were published in reputable international journals, papers about experimental investigations on the safety of GM foods were surprisingly very scant. We concluded that if data on toxicological assessment of GM foods were obtained, these were not reported in scientific journals and subjected to the scientific judgment (Domingo, 2000; Domingo and Gomez, 2000).

The World Health Organization indicates that gene transfer from GM foods to cells of the body or to bacteria in the gastrointes- tinal tract would cause concern if the transferred genetic material adversely affects human health, which would be particularly relevant if antibiotic resistance genes, used in creating GMOs, were to be transferred (WHO, 2002).

Although intact foreign DNA is not thought to be available for transfer into human cells, there is a remote possibility that DNA fragments may be taken up by bacteria in the gut (Donaldson and May, 1999) DNA fragments, after passing through the intestinal wall, might be actively removed by cells of the gut immune system OR they might enter the circulation system (Jonas et al., 2001). In relation to this, Schubbert et al. (1997) demonstrated that food-ingested foreign DNA was not completely degraded in the gastrointestinal tract.

This review can be concluded by raising the following question:

"Where is the scientific evidence showing that GM plants and foods are toxicologically safe?"

Genetically Modified Foods Proposed as Trigger for Gluten Sensitivity

The Institute for Responsible Technology (IRT) released a report today proposing a link between genetically modified (GM) foods and gluten-related disorders. In today's report, a team of experts suggests that GM foods may be an important environmental trigger for gluten sensitivity, which is estimated to affect as many as 18 mil- lion Americans.

Citing U.S. Department of Agriculture data, Environmental Protection Act records, medical journal reviews, and international research, the authors relate genetically modified foods to five conditions that may either trigger or exacerbate gluten-related disorders, including the serious autoimmune disorder.

Celiac Disease:
1. Impaired digestion
2. Intestinal permeability
3. Imbalanced gut bacteria
4. Damage to the intestinal wall
5. Immune activation and allergic response

Although wheat has been hybridized over the years, it is not a genetically modified organism (GMO), which can only be created by a laboratory process that inserts genetic material into plant DNA. There are nine GMO food crops currently being grown for commercial use: soy, corn, cotton (oil), canola (oil), sugar from sugar beets, zucchini, yellow squash, Hawaiian papaya, and alfalfa.

Most GMOs are engineered to tolerate a weed killer called glyphosate, trade name Roundup®. They contain high levels of this toxin at harvest. Corn and cotton varieties are also engineered to produce an insecticide called Bt-toxin. The report focuses primarily on the effects of these two toxins.

Executive Director of the Institute for Responsible Technology, Jeffrey Smith, ex- plains, "The Bt-toxin in corn is designed to puncture holes in insect cells, but studies show it does the same in human cells. Bt-toxin may be linked to leaky gut, which physicians consistently see in gluten-sensitive patients."

Stephanie Seneff, Senior Research Scientist at MIT, expresses concern about Roundup®: "Glyphosate is a patented antibiotic that destroys beneficial gut bacteria. An imbalance of gut flora commonly accompanies Celiac Disease and other gluten-related disorders."

Mary Waldner, founder of Mary's Gone Crackers®, a Non-GMO Project verified and gluten-free certified food manufacturer, says, "I'm excited by the research that offers an explanation for the dramatic increase in gluten- related disorders. I encourage everyone to avoid GMOs in their diets. I have always been concerned about the effects of GMOs and Mary's Gone Crackers has never used GMO ingredients in our products."

Dr. Tom O'Bryan, internationally recognized expert on gluten sensitivity and Celiac Disease, says, "The

introduction of GMOs is highly suspect as a candidate to explain the rapid rise in gluten-related disorders over the last 17 years." Internist, Emily Linder MD, says, "Based on my clinical experience, when I remove genetically modified foods as part of the treatment for gluten sensitivity, recovery is faster and more complete. I believe that GMOs in our diet contribute to the rise in gluten sensitivity in the U.S. population."

The best way to avoid GMOs is to purchase certified organic or Non-GMO Project verified products. Download a shopping guide at NonGMOShoppingGuide.com or a free iPhone app, ShopNoGMO.
The markets for both gluten-free products and non-GMO products are expanding. Gluten-free sales are expected to exceed $5 billion by 2015 and Non-GMO Project Veriied sales went from $0 to over $3.5 billion in the last three years. Just as Mary's Gone Crackers® did in 2011, the conclusions in this report may inspire more gluten- free food manufacturers to pursue Non-GMO Project Verified status.

For a full report see www.glutenandgmos.com

About the Institute for Responsible Technology

The Institute for Responsible Technology is a world leader in educating policy makers and the public about genetically modified foods and crops. The Institute investigates and reports on the impact GM foods have on health, environment, economy, and agriculture, as well as the problems associated with current research, regulation, corporate practices, and reporting.

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"Glyphosate is a patented antibiotic that destroys beneicial gut bacteria. An imbalance of gut lora commonly accompanies [numerous medical] disorders." ~ Stephanie Seneff, Senior Research Scientist at MIT.

Testimony of Dr. Joseph Cummins

Education

Stadium High School, Tacoma, Wash. 1951
B.S., (Horticulture) Washington State University, 1955
Ph.D., (Cell Biology) University of Wisconsin, 1962
Postdoctoral Fellow, Univ. of Edinburgh. (Prof. J.M. Mitchinson, Dept. of Zoology) 1962-64 Postdoctoral Fellow, McArdle Lab. for Cancer Research (Univ. of Wisconsin, Prof. H.P. Rusch) 1964-66 Postdoctoral Fellow, The Karolinska Inst., Stockholm (Prof. J.E. Edstrom) 1969

Employment

Visiting Assistant, Prof. Radiology, Dept. of Radiology, Case-Western Reserve University, Cleveland, Ohio, 1967
Assistant Professor, Biol. Sci., Dept. of Biol. Sci., Rutgers University, New Brunswick, N.J., 1966-67
Assistant Professor, Dept. of Zoology, Univ. of Washington, Seattle, Washington, 1967-71 Assistant Professor to Professor Emeritus 1972 to 1996

Teaching Credentials

Advanced Genetics (molecular genetics), microbial genetics, microbiology, human genetics, environmental pathology and toxicology (medical faculty) and graduate topics in environmental issues.

Professional Associations

American genetics society, American society for cell biology, and Society for Environmental Mutagens along with that sit or sat on boards of environmental organizations. Received a number of recognitions for participating in and advising environmental issues.

Publications

Career total : over 210 publications
Over 70 peer reviewed journal articles
Over 5 chapters in books
Numerous reviews, reports to government agencies, reports in meetings proceedings and popular magazines

Current Activities

Actively engaged in preparing reviews and reports in areas related to genetic engineering, global pollution with persistent organic pollutants and pesticides.

Presently GM crops on the market have been modified to fight pests , later releases may deal with nutrition and shelf life of the GM foods. Several years ago a GM tomato with very long shelf life was introduced but then re- moved when consumers found the tomatoes did not taste good. However,

the safety of GM crops is still in question because crop approval has been based on a concept called "substantial equivalence". Substantial equivalence is the doctrine that maintains that if GM crops are grossly similar to crops that have not been genetically modified they are equivalent to those crops and need not be labeled in the market and they need not be tested similarly to the test required for pesticides or pharmaceutical drugs. Governments in Canada and the United States employ that doctrine to evade labeling and testing the GM crops before they are marketed.

These results on an allergic (IgE) response was associated with Cry9 in corn powder. Considering that the Cry 9 containing corn was fed millions of farm animals and probably as many humans eating corn products contaminated with corn designated only for animal use any evidence of IgE response to Cry 9 corn should not be allowed to be buried.

Here, Dr. Cummins references and criticizes a Monsanto study:

Glyphosate tolerant (Roundup Ready) corn in a demonstration of substantial equivalence: Glyphosate-Tolerant Corn: "The Composition and Feeding Value of Grain from Glyphosate-Tolerant Corn Is Equivalent to That of Conventional Corn (Zea mays L.)" Ravinder S. Sidhu,* Bruce G. Hammond, Roy L. Fuchs, Jean-Noel Mutz, Larry R. Holden,Beverly George, † and Tammy Olson ‡

Monsanto Company
700 Chesterield Parkway North
St. Louis, Missouri 63198
J. Agric. Food Chem. 2000, 48, 230 -2312
Monsanto Abstract

Glyphosate-tolerant (Roundup Ready) corn line GA21 has been developed by genetic modification to tolerate glyphosate, the active ingredient in Roundup herbicide. The purpose of this study was to evaluate the compositional and nutritional safety of corn line GA21 compared to that of conventional corn. Compositional analyses were conducted to measure proximate, fiber, amino acid, fatty acid, and mineral contents of grain and proximate, fiber, and mineral contents of forage collected from 16 field sites over two growing seasons.

The nutritional safety of corn line GA21 was evaluated in a poultry feeding study conducted with 2-day old, rap- idly growing broiler chickens, at a dietary concentration of 50-60% w/w. Compositional analysis results showed that, except for a few minor differences that are unlikely to be of biological significance, the grain and forage of GA21 corn were comparable in their composition to that of the control corn line and to conventional corn. Results from the poultry feeding study showed that there were no differences in growth, feed efficiency, adjusted feed efficiency, and fat pad weights between chickens fed with GA21 grain or with parental control grain.

These data taken together demonstrate that Roundup Ready corn is as safe and nutritious as conventional corn for food and feed use. Dr. Cummins now points out the serious defects in the Monsanto study:

"The research group from Monsanto pointed out that substantial equivalence (the idea that genetically modified (GM) crops are equivalent to crops that are not genetically modified in terms of nutrition and composition) is crucial to the regulation of GM crops. Their research efforts included comparing GM corn containing primarily a gene that made the corn resistant to the herbicide glyphosate. The

corn was then fed to chickens and the chicken were fed GM corn or corn that was not GM. The investigators believed that their results proved that the GM corn was substantially equivalent to corn that was not modified."

"The investigators believed that their conclusions were valid even though GM corn was found to be about 9% lower in calcium content a difference that was statistically significant. The GM corn was also found to be statistically significantly different in the content of the amino acids serine and tyrosine from unmodified corn. The chick- ens fed GM corn or corn that was unmodified were not significantly different but the research report briefly and hidden mentions that the GM corn fed the chickens had never been exposed to the herbicide glyphosate. Major alterations in corn metabolism would only be triggered in the presence of the herbicide."

"The Monsanto researchers claimed that GM corn was not substantially different from unmodified corn even though the two were statistically significantly different! They seem to have convinced government regulators that statistical significance just doesn't count when you have faith in your company's product. The regulators and editors did not even wince when the experimental chickens were fed herbicide tolerant corn that had never been exposed to herbicide!"

"Statistical significance should count and the corn was clearly substantially different from unmodified corn. Feeding chickens GM corn that was not exposed to herbicide was clearly a strange thing [for Monsanto] to do."

"Baculovirus vectors efficiently transfer genes into human liver cells (Hofmann et al 1995; Boyce and Bucher 1996). The vectors transferred into human liver tissues most effectively in perfused liver tissue because serum components hampered virus transfer (Sandig et al 1996). Human conditions causing defects in complement should allow liver transfer of recombinant baculovirus. Inhibitors of complement facilitate baculovirus gene transfer (Hofmann and Strauss 1998). Hybrid baculovirus-adeno virus vectors have been used to deliver genes to human cells (Palombo et al 1998). Baculovirus vectors have been used to deliver hepatitis B to human liver efficiently to allow study of hepatitis B drug therapy (Delaney et al 1999)."

"In conclusion baculovirus vectors are being used to control insect pests because they are effective and persist for a long time in the environment. Baculovirus vectors are also being used in gene therapy of human liver. These areas of research seem to exist as two solitudes and the risks of one are not evaluated in the context of the other. The most disconcerting finding is the one showing that replication of the baculovirus is inherently unpredictable. However, there may be some that believe that we should all have unlabeled liver gene therapy with our salad."

Concluding Statement

"The experiments discussed in the above brief suggest that there should be great concern about the use of substantial equivalence to evaluate crops. First, because it is not a useful concept for recognizing and eliminating injurious toxins. Second, because the concept is not being used properly, even ignoring clear differences in composition. Last those employing the concept to approve GM crops seem unwilling to remove approved crops from the market when they are shown to be unsubstantially equivalent."

"Furthermore, the GM biopesticides seem to be approved or pushed for approval with inadequate safety evaluation and concern for their long term impact. The field of genetic engineering seems to be moving forward with undue haste and employing humans as experimental organisms. The profession would probably greatly improve its outlook if criminal charges could be laid against researchers and their university or company officials when injurious procedures effecting humans or the environment are implemented without full regards for the rights of humans to decline participation in the procedure or when foreseeable environmental damage is ignored. Charges could be laid based on the depraved indifference of researchers and the officials that direct them."

"Charges could be laid based on the depraved indifference of researchers and the officials that direct them."

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U.S. GLYPHOSATE USE 1974-2014

Table 1 Glyphosate active ingredient use in the United States: 1974–2014

From: Trends in glyphosate herbicide use in the United States and globally

	1974	1982	1990	1995	2000	2005	2010	2012	2014
Glyphosate Use (1000 kg)	635	3538	5761	18,144	44,679	81,506	118,298	118,753	125,384
Agricultural	363	2268	3357	12,474	35,720	71,441	106,963	107,192	113,356
Non-agricultural	272	1270	2404	5670	8958	10,065	11,335	11,562	12,029
Glyphosate use (1000 lb)	1400	7800	12,700	40,000	98,500	179,690	260,804	261,807	276,425
Agricultural	800	5000	7400	27,500	78,750	157,500	235,814	236,318	249,906
Non-agricultural	600	2800	5300	12,500	19,750	22,190	24,989	25,489	26,519
Share agricultural (%)	57.1	64.1	58.3	68.8	79.9	87.7	90.4	90.3	90.4
Share non-agricultural (%)	42.9	35.9	41.7	31.3	20.1	12.3	9.6	9.7	9.6

Data in thousands of kilograms or pounds of glyphosate active ingredient. From the National Agriculture Statistical Service pesticide use data and the Environmental Protection Agency pesticide industry and use reports (1995, 1997, 1999, 2001, 2007). See Additional file 1: Table S18 for details

Table 3 Glyphosate active ingredient applied to major crop in the U.S., 1990–2014

From: Trends in glyphosate herbicide use in the United States and globally

	1990	1995	2000	2005	2010	2014
Soybeans	2,663,000	7,628,350	43,870,826	72,043,130	107,697,606	122,473,987
Corn	880,066	2,620,860	4,779,306	25,587,085	69,494,324	68,949,452
Cotton, upland	192,429	1,013,052	10,145,096	16,308,461	17,815,794	17,421,787
Wheat, winter	331,758	239,051	1,702,193	5,045,592	13,922,880	12,353,488
Alfalfa	381,525	402,666	422,334	469,539	479,184	8,853,600
Wheat, spring (excl. durum)	90,659	416,744	1,892,420	2,203,603	4,128,957	4,217,788
Sorghum	236,305	751,913	1,540,931	2,652,943	3,924,301	4,178,573
Sugar beets	36,130	59,012	87,439	118,139	2,226,610	2,763,075
Canola	0	0	552,632	647,368	1,284,317	219,392
Oranges	885,201	1,149,594	1,487,882	1,898,798	1,631,050	1,683,156
Wheat, spring durum	75,308	199,483	450,635	444,785	1,190,234	1,201,807
Barley	13,168	45,563	248,554	658,954	996,626	1,064,160
Other crops	1,897,522	2,733,922	3,736,751	4,249,288	4,648,224	4,526,043
Total crops	7,683,070	17,260,209	70,916,999	132,327,684	229,440,109	249,906,307

Data are pounds of active ingredient applied

National Agriculture Statistical Service. See Additional file 1: Table S17 for details

As the peer reviewed research began to reveal an ever increasing level of glyphosate in the urine and blood of Americans the EPA increased the tolerance levels to accommodate the findings.

Table 7 Changes in selected U.S. EPA glyphosate tolerance levels (ppm)

From: Trends in glyphosate herbicide use in the United States and globally

	1993	1999	2012	2015
Soybeans				
Grain	20	20	20	40
Hay	15	200	200	100
Forage	15	100	100	100
Maize				
Corn grain	0.1	0.1	5	5
Corn stover	NT	NT	6	100
Sweetcorn	0.2	0.2	3.5	3.5
Oats				
Grain	0.1	0.1	0.1	30
Wheat				
Grain	0.1	5	5	30
Straw	0.1	85	85	100
Edible beans	0.2	0.2	5	5
Alfalfa				
Dry hay	0.2	200	200	400
Silage	0.2	75	75	400

2012 and 2015 tolerances—40 CFR Part 180.364, “Glyphosate; tolerances for residues.” 1993 tolerances—”Glyphosate Reregistration Eligibility Document (RED),” (7508 W), Office of Pesticide Programs, U.S. EPA, September 1993. 1999 tolerances—EPA Tolerance Reassessment document for Reassessed Group 3 tolerances, August 4, 1999

Trends in glyphosate herbicide use in the United States and globally

By Charles M. Benbrook

Background: Accurate pesticide use data are essential when studying the environmental and public health impacts of pesticide use. Since the mid-1990s, significant changes have occurred in when and how glyphosate herbicides are applied, and there has been a dramatic increase in the total volume applied.

Methods: Data on glyphosate applications were collected from multiple sources and integrated into a dataset spanning agricultural, non-agricultural, and total glyphosate use from 1974–2014 in the United States, and from 1994–2014 globally.

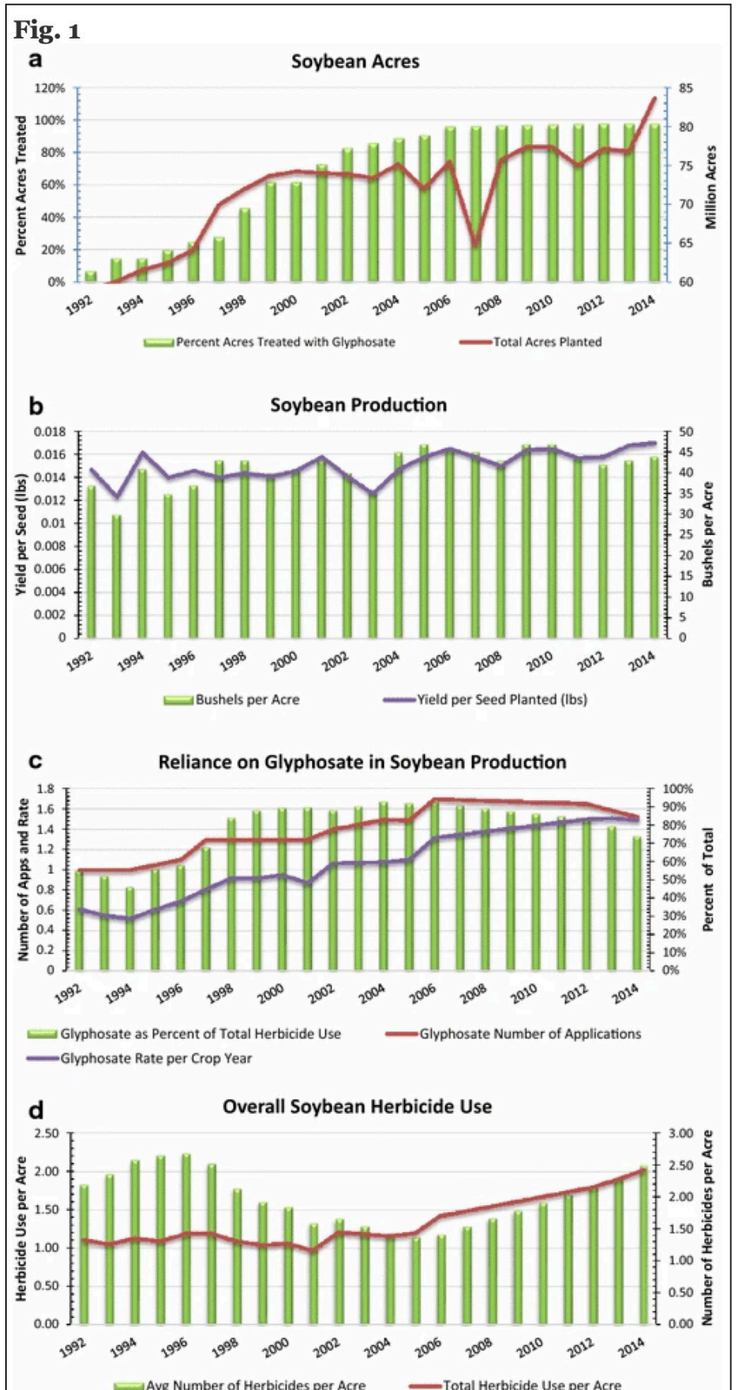
Results: Since 1974 in the U.S., over 1.6 billion kilograms of glyphosate active ingredient have been applied, or 19 % of estimated global use of glyphosate (8.6 billion kilograms). Globally, glyphosate use has risen almost 15-fold since so-called "Roundup Ready," genetically engineered glyphosate-tolerant crops were introduced in 1996. Two-thirds of the total volume of glyphosate applied in the U.S. from 1974 to 2014 has been sprayed in just the last 10 years. The corresponding share globally is 72 %. In 2014, farmers sprayed enough glyphosate to apply ~1.0 kg/ha (0.8 pound/acre) on every hectare of U.S.-cultivated cropland and nearly 0.53 kg/ha (0.47 pounds/acre) on all cropland worldwide.

Conclusions: Genetically engineered herbicide-tolerant crops now account for about 56 % of global glyphosate use. In the U.S., no pesticide has come remotely close to such intensive and widespread use. This is likely the case globally, but published global pesticide use data are sparse. Glyphosate will likely remain the most widely applied pesticide worldwide for years to come, and interest will grow in quantifying ecological and human health impacts. Accurate, accessible time-series data on glyphosate use will accelerate research progress.

Background

A Swiss chemist working for a pharmaceutical company, Dr. Henri Martin, discovered glyphosate [N-(phosphonomethyl) glycine] in 1950 [1]. Because no pharmaceutical applications were identified, the molecule was sold to a series of other companies and samples were tested for a number of possible end uses. A Monsanto chemist, Dr. John Franz, identified the herbicidal activity of glyphosate in 1970, and a formulated end-use product called Roundup was first sold commercially by Monsanto in 1974 [2].

For two decades, the number and diversity of agricultural and non-farm uses grew steadily, but the volume sold was limited because glyphosate could only be sprayed where land managers wanted to kill all vegetation (e.g., between the rows in orchards and viticulture; industrial yards; and, train, pipeline, and powerline rights of way). Some applications were, and still are made after a crop is harvested, to control late-season weeds that escaped other control measures. In some regions, desiccant applications are made late in the growing season to speed up harvest operations, especially in small grain crops.



Trends in U.S. soybean production and glyphosate use

In 1996, so-called "Roundup Ready" (RR), genetically engineered (GE) herbicide-tolerant (HT) soybean, maize, and cotton varieties were approved for planting in the U.S. This technological breakthrough made it possible to utilize glyphosate as a broadcast, post-emergence herbicide, thereby dramatically extending the time period during which glyphosate-based herbicides could be applied. Alfalfa and sugar beets engineered to tolerate glyphosate were first approved and commercially marketed in 2005 and 2008, respectively, but federal lawsuits citing procedural violations of the National Environmental Policy Act delayed full commercial sales until 2011 for RR alfalfa and 2012 for RR sugar beets [3, 4].

To quantify the environmental and human health impacts stemming from pesticide use, it is essential to know how much pesticide is being applied in a region on a given crop, collectively across all crops, and in other places (e.g., forests, rangeland, along rights-of-way, industrial yards). Ideally, data are available on the land area and crops treated; the timing and method of applications; rates and number of application; the formulation applied and the total volume applied per hectare. Unfortunately, all these data are rarely available.

Rising use heightens risk concerns. Growing reliance on the broad-spectrum herbicide glyphosate has triggered the spread of tolerant and resistant weeds in the U.S. and globally [5–10]. To combat weeds less sensitive to glyphosate, farmers typically increase glyphosate application rates and spray more often [11–13]. In addition, next-generation herbicide-tolerant crops

are, or will soon be on the market genetically engineered to withstand the application of additional herbicides (up to over a dozen), including herbicides posing greater ecological, crop damage, and human health risks (e.g., 2,4-D and dicamba) [6].

This paper presents trends in glyphosate use in order to help researchers better understand and quantify the risks and benefits stemming from uses of glyphosate-based herbicides. Detailed data on trends in glyphosate use in the U.S., both in and outside the agricultural sector, are presented, while the data on global glyphosate use are less complete and more uncertain. Fortunately, sufficient data are available to track the impact of GE herbicide-tolerant (HT) crops on global glyphosate-based herbicide (GBH) use since 2010 [14–17].

In order to better understand the many factors driving the trajectory of glyphosate's use and impacts, two timeline graphics are presented in the "Discussion" section, Fig. 1.

Methods

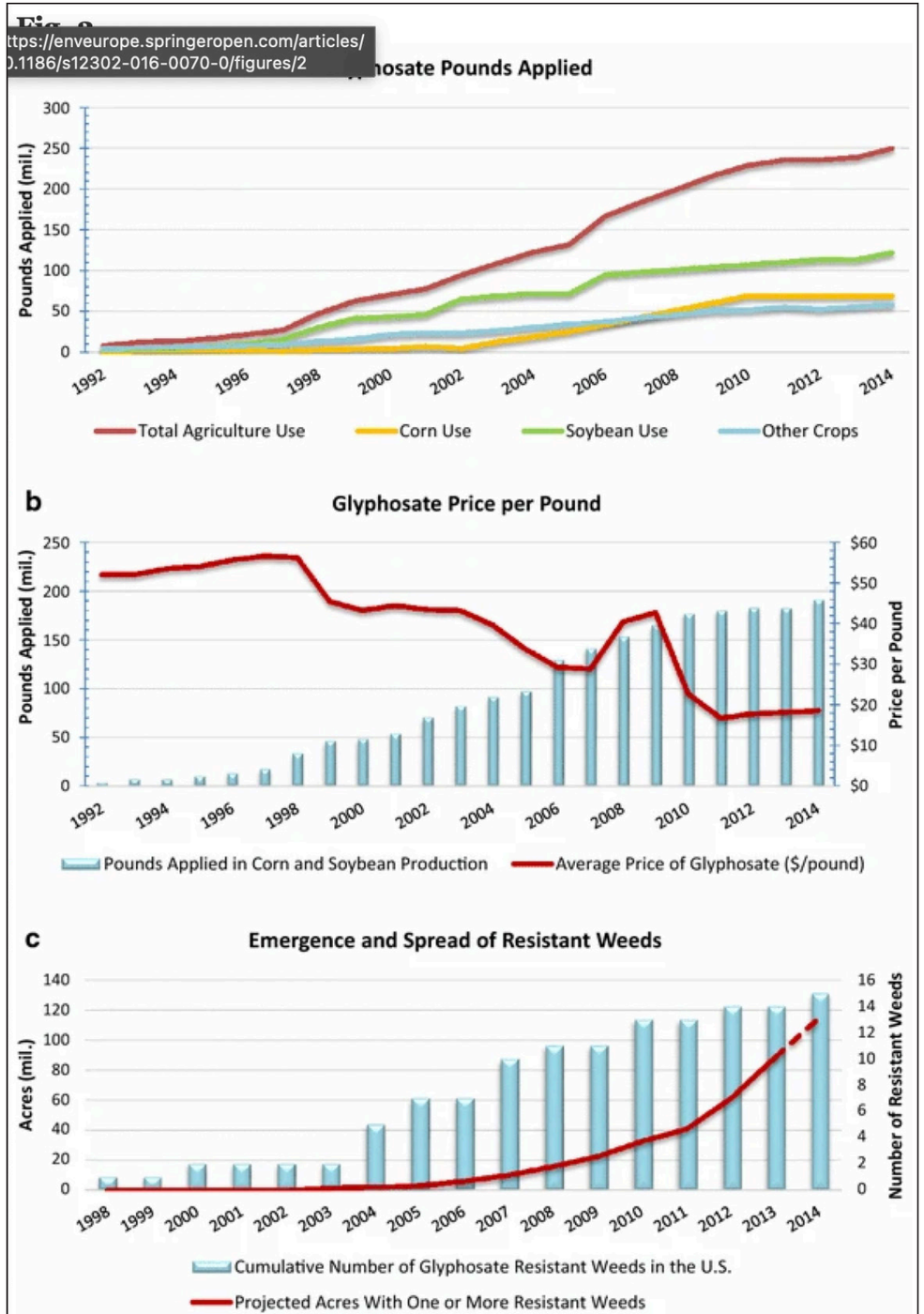
Throughout this paper, all references to glyphosate or glyphosate-based herbicides encompass all commercial end-use formulations. All data on volumes of glyphosate applied refer to kilograms or pounds of the active ingredient glyphosate, rather than glyphosate plus the adjuvants and surfactants included in an end-use formulation to enhance uptake by weeds and facilitate mixing and spray applications.

Glyphosate is applied in a variety of forms including isopropylamine salt, ammonium salt, diammonium salt, dimethylammonium salt, and potassium salt [1]. E.g., in its corn pesticide use survey in 2014, the National Agricultural Statistics Service (NASS) collected data on four different forms of glyphosate applied at different rates: isopropylamine salt, glyphosate, glyphosate ammonium salt, and glyphosate potassium salt [11]. Total corn hectares treated with glyphosate in the U.S. and kilograms of active ingredient applied are the sum across the four forms of glyphosate. "Total glyphosate" rate of application is calculated as an average of the four application rates reported for the different forms of glyphosate, weighed by the area treated with each form of glyphosate. The same process can be used to calculate "total glyphosate" average number of applications per hectare.

U.S. Data Sources

The U.S. Department of Agriculture (USDA), through the National Agricultural Statistics Service (NASS), has collected reasonably comprehensive pesticide use data for major grain, row crop, fruit, and vegetable crops since 1990 [18]. Periodic USDA surveys are also available to track pesticide use on major crops back into the 1970s.

Between 1997 and 2007, the U.S. Environmental Protection Agency (EPA) issued several reports on the volumes of pesticides applied in the agricultural, industrial/government, and urban/suburban sectors [19–23]. EPA use reports capture a number of lower-volume pesticide uses not included in USDA surveys and are the only public source of data on industrial/government and suburban/urban pesticide use. Data on glyphosate use on specific crops in the U.S. are primarily drawn from pesticide use surveys carried out by the USDA's NASS. Pesticide applications at the national and state level have been reported since 1990 by NASS for most major field crops; fruit crops have been surveyed in odd years; and vegetables have been covered in even years [18].



Use and impacts of glyphosate in corn and soybean production

Estimates of overall GBH use by U.S. farmers and ranchers are available from three sources: the sum of crop-specific NASS data in any given year; the EPA periodic reports noted above; and, the pesticide use data set compiled by the U.S. Geological Survey (USGS), which in turn draws heavily on private survey data [24–26]. Both the EPA and USGS use data compilations augment NASS data with a variety of other information sources that cover uses not included in NASS surveys. In addition, a number of private companies conduct surveys of pesticide use in the U.S. and around the world, although detailed results are not publicly accessible.

NASS surveys a limited number of crops in any given year. In the tables that follow, pesticide use is linearly interpolated in years lacking survey data but bounded by reported values. In years before the first, or after the last NASS survey, annual values are extrapolated (see [27], Additional file 1: Tables for details).

In each year, NASS strives to collect data on states that collectively account for at least 85 % of the area planted nationally to a given crop. For some crops, 15 or more states are surveyed to reach this threshold, while in other crops only two states are required (e.g., lemons in 2011, two states; corn in 2010, 21 states). Accordingly, when NASS reports national estimates of total pesticide use on surveyed acres of a given crop, the data typically underestimate total national crop use by ~15 %, since national acres planted always exceeds NASS acres surveyed. This is why in several Additional file 1: Tables [27] the pounds of herbicides applied are reported on both NASS-surveyed acres and total national acre. To estimate use on all planted hectares/acres, the average rate of application per crop year on NASS-surveyed acres is applied to the total planted area [28].

Total volume of glyphosate applied

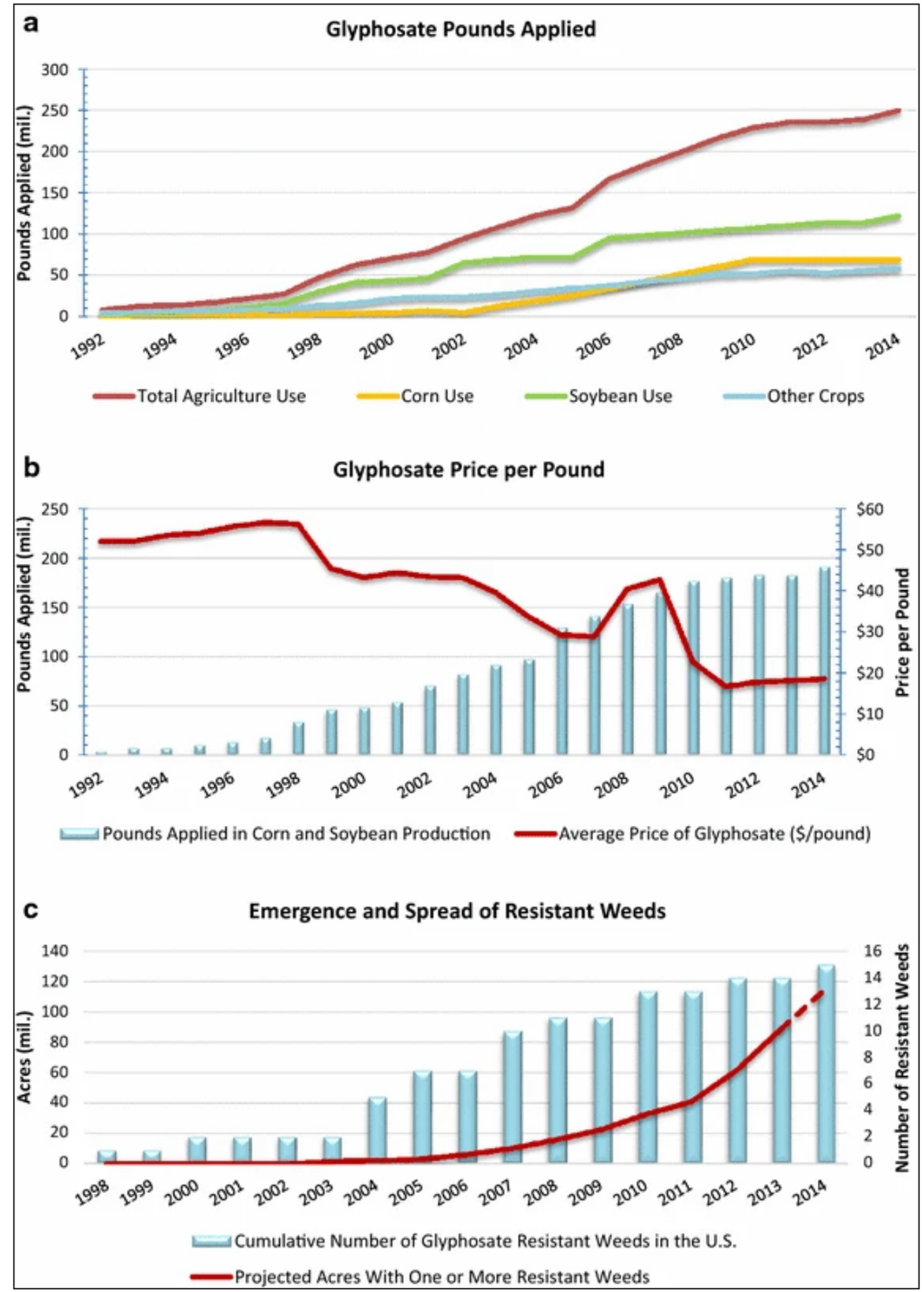
NASS use data were downloaded and integrated into the "Pesticide Use Data System" (PUDS). Additional file 1: Tables S6–S15 [27] report glyphosate use in the U.S. on grain crops, fruits, vegetables, nuts, and other crops for 1982, 1992, 1995, 1998, 2001, 2004, and every 2 years thereafter through 2014. These tables report average rates of glyphosate application and rate per crop year weighted by the acres treated with each of the multiple forms of glyphosate included in NASS surveys. Total pounds of all forms of glyphosate applied to all crops surveyed by NASS are shown in Additional file 1: Table S17 [27]. Values in years when NASS did not survey a given crop are interpolated or extrapolated (see Additional file 1: Table S17 for details).

Little or no government or published survey data are accessible on the volume of glyphosate applied on canola and pima cotton, as well as two more recently approved and planted GE-HT crops (alfalfa, sugar beets). Estimates of GBH use on these crops were made for 2012–2014 in Additional file 1: Table S16, based on NASS data on acres planted, estimates of adoption of glyphosate-tolerant varieties issued by commodity groups, academic weed management specialists, or in trade press articles.

EPA pesticide use summary reports

Pesticide use reports have been released by the EPA for 1987, 1993, and every two years thereafter through 2007 [19–23].

These reports encompass more crops and agricultural uses than the NASS reports, and also quantify use in three sectors: "U.S. Agriculture," "Industrial/Commercial/Government," and "Home and Garden."



EPA pesticide use reports draw on NASS survey results, a number of proprietary pesticide use datasets, and pesticide production and use data submitted by registrants, or collected during the course of a regulatory review of a given pesticide.

The EPA has not reported pesticide use data since 2007. However, NASS coverage of the major uses of glyphosate is somewhat consistent since 2007, and the U.S. Geological Survey (USGS) has also issued detailed reports and a dataset of pesticide use covering 1992-2011 [25, 29]. Results from NASS, EPA, and USGS are integrated in Additional file 1: Table S18 [27] to produce annual data from 1974 through 2014 in glyphosate use in agriculture, non-agricultural applications, and total glyphosate use.

Global glyphosate use data sources and estimates. A special issue of the journal Pest Management Science in 2000 focused on glyphosate uses, issues, and challenges. Woodburn [29] summarized global glyphosate use from 1994–1997, and provided valuable information on agricultural and non-agricultural uses. Woodburn's analysis drew upon proprietary data sources and surveys.

Several sources of industry data on global glyphosate production are available for 2011–2014 [30–33]. Global use data in Additional file 1: Table S23 between 1997 and 2011 are interpolated and track the annual rates of growth in the U.S.

Glyphosate use on herbicide-tolerant hectares

Global soybean production in 2014 was 315.4 million metric tons (11.6 million bushels), with the U.S. (108 million metric tons), Brazil (94.5 mill. metric tons), and Argentina (56 mill. metric tons) accounting for 82 % of the global harvest [34]. The International Service for the Acquisition of Agri-Biotech Applications (ISAAA) compiles annual, global data by country, continent, and worldwide on hectares planted to various GE crop varieties ([14–17], [27], Additional file 1: Table S20). Data from these briefs were combined with estimates of average glyphosate rates of application ([27], Additional file 1: Table S21), yielding estimates of total glyphosate use from 1996 to 2014 on GE, herbicide-tolerant cotton, maize, soybeans, and canola, and globally for all crops ([27], Additional file 1: Table S23).

Use in Argentina and Brazil. GE-HT soybeans accounted for 100 and 93 % of the soybean hectares planted in Argentina and Brazil in 2014 [34]. Sistema Integrado de Información Agropecuaria (Ministerio de Agricultura Ganadaria y Pesca) reports data on hectares planted to soybeans in Argentina [35], and the Instituto Brasileiro de Geografia e Estatística (IBGE) provides the same data for Brazil [36]. For Argentina and Brazil, Soystats [34] provides percent of area planted to GE-HT soybeans for 2000–2014. Benbrook [37] and Meyer and Cederberg [38] provide information on glyphosate use rates per crop year, which are substantially higher than those in the U.S. Ferraro and Ghersa [39] also document applications to soybeans in Argentina that can range up to seven per year, substantially more than in the U.S.

Results

Glyphosate use in the U.S

Farmers and ranchers in the U.S. applied an estimated 0.36 million kg of active ingredient (0.8 million pounds) in 1974 (Table 1). The volume applied increased steadily, but not dramatically, through 1995, to 12.5 million kg (28 million pounds).

Use on GE-HT crops

For over a decade, the vast majority of hectares planted to maize, soybeans, canola, and cotton have been genetically engineered (GE) to be herbicide-tolerant (HT) (see Fig. 2a; [15–17]). In 2012, 265 million kgs of glyphosate were applied on GE-HT soybeans, or about 73 % of all glyphosate applied on GE-HT crops, and 41 % of total, global GBH use (Table 6). Between 2010 and 2012, glyphosate use rose moderately in GE-HT cotton production (10 %) and soybeans (19 %), but more sharply in GE-HT maize (47 %) and canola (36 %).

Discussion

Volume applied in the U.S

The United States has the world's most complete, publicly accessible data on glyphosate use. The combination of NASS, EPA, and USGS glyphosate use data provides a solid foundation to track trends in agricultural, non-agricultural, and total glyphosate use from commercial introduction through 2014. A report issued by the National Center for Food and Agricultural Policy [40] provides useful, detailed information on glyphosate use by state and crop for 1995, drawing on NASS, EPA, and information from land grant university weed management specialists.

Annual agricultural glyphosate use volumes in the nine EPA pesticide use reports issued between 1997 and 2007 exceed NASS annual totals for the same years by 20–70 %, largely because EPA had access to multiple data sources that made it possible to estimate the volume of glyphosate applied on all crops, as well as non-crop use patterns (e.g., pasture and range uses). NASS estimates, on the other hand, were limited in any given year to the crops surveyed in a particular year, and NASS never or rarely surveys pesticide use on crops grown on limited acreage. The differences are largest in the first two decades of glyphosate use (through 1995), and reflect the array of glyphosate uses not covered in NASS, crop-by-crop pesticide use surveys. But as total agricultural use rises sharply post-1996 in the wake of the introduction of GE-HT crops, glyphosate use on the major GE crops (maize, soybeans, cotton) is fully captured in NASS, EPA, and USGS data. Differences in agricultural use estimates between the datasets all but disappear by 2007 (NASS, 184.2 million pounds glyphosate use; EPA mid-range, 182.5; USGS, 183.2; [27], Additional file 1: Table S18).

Factors driving use upward

Several factors have driven the increase in glyphosate use since commercial introduction in 1974. In terms of area treated, the dominant factor has been the commercialization of GE-HT crops. Not only has glyphosate been sprayed on more hectares planted to HT crops, it has also been applied more intensively—i.e., more applications per hectare in a given crop year, and higher one-time rates of application [13, 28].

In the U.S. soybean sector, the average number of glyphosate applications rose from 1.1 per crop year in 1996 to 1.52 in 2014, while the one-time rate of application rose from 0.7 kg/hectare (0.63 pound/acre) to 1.1 kg/hectare (0.98 pound/acre) in the same period ([27], Additional file 1: Table S2). Shifts in weed communities favoring species less susceptible to glyphosate, coupled with the emergence of first, less sensitive, and eventually glyphosate-resistant weeds drove the incremental rise in the intensity of glyphosate applications on GE-HT crops [13, 10]. Rising reliance on glyphosate by soybean producers in the U.S. is graphically portrayed in Fig. 1a, while Fig. 1b shows modest change during the

GE era in soybean yield/acre or production per soybean seed planted. Steady increases in the number of applications of glyphosate, rate per crop year, and glyphosate's share of overall soybean herbicide use are shown in Fig. 1c.

Other factors contributed to rising glyphosate use. These include steady expansion in the number of crops registered for use on glyphosate product labels, the adoption of no-tillage and conservation tillage systems, the declining price per pound of active ingredient (see Fig. 2b), new application method and timing options, and new agricultural use patterns (e.g., as a desiccant to accelerate the harvest of small grains, edible beans, and other crops).

The one-time average rate of glyphosate application on Kansas wheat has incrementally risen threefold, from 0.33 kg/hectare in 1993 to 0.95 kg/hectare in 2012 ([27], Additional file 1: Table S5). The trend toward no-till and conservation tillage systems has increased wheat farmer reliance on herbicides, including glyphosate. The average two applications in recent years on winter wheat could include a pre- or at-plant spray, an application during a summer fallow period, and/or a late-season application intended to speed up harvest operations (a so-called "harvest aid" or "green burndown" use) [41]. The average rate per crop year—the single most important indicator of the intensity of glyphosate use—rose even more dramatically, from 0.47 kg/hectare in 1993 to 2.08 kg/hectare in 2012 (4.4-fold).

Harvest-aid uses of glyphosate have become increasingly common since the mid-2000s in U.S. northern-tier states on wheat, barley, edible beans, and a few other crops, as well as in much of northern Europe [41–43]. Because such applications occur within days of harvest, they result in much higher residues in the harvested foodstuffs [42]. To cover such residues, Monsanto and other glyphosate registrants have requested, and generally been granted, substantial increases in glyphosate tolerance levels in several crops, as well as in the animal forages derived from such crops. Table 7 provides an overview of key crops on which regulatory authorities have granted large increases in glyphosate tolerances to accommodate GE-HT crop uses, as well as harvest aid, green burndown applications. Note the 2,000-fold increase in the glyphosate tolerance on dry alfalfa hay and silage from 1993 to 2014, an increase made necessary by the approval and planting of GE-HT alfalfa. In response to the large increase in expected residues from such uses, some European countries now prohibit harvest-aid applications on food crops (e.g., Germany, since May 2014).

Global use of glyphosate

Farmers worldwide applied about 51.3 million kgs (113 million pounds) of glyphosate in 1995 ([27], Additional file 1: Table S23). To place this volume of global glyphosate use in perspective, in just one country (the U.S.) that year, farmers applied ~60 million kgs (132 million pounds) of two herbicides (atrazine and metolachlor) on mostly one crop (maize) ([27], Additional file 1: Table S19).

But the scope and intensity of glyphosate use worldwide rapidly changed as GE-HT crops gained market share. There were about 1.4 billion hectares of actively farmed, arable cropland worldwide in 2014 [44]. Across this landmass, there were an estimated 747 million kg of agricultural applications of glyphosate. Accordingly, if this volume of glyphosate had been applied evenly, about 0.53 kg of glyphosate could have been sprayed on every hectare of cropland on the planet (0.47 lbs/acre).

Glyphosate was, of course, not applied evenly on every hectare of cropland. The average rate of glyphosate applications per hectare per crop year during 2014 fell in the range of 1.5–2.0 kg/hectare [27].

At these rates of application, the total volume of glyphosate applied in 2014 was sufficient to treat between 22 and 30 % of globally cultivated cropland. No pesticide in history has been sprayed so widely. Since losing global patent protection around 2000, dozens of companies began manufacturing technical glyphosate, and/or formulating glyphosate products. Some two-dozen Chinese firms now supply 40 % of the glyphosate used worldwide, and export most of their annual production [45].

The loss of patent protection and increased generic manufacturing of glyphosate has placed downward pressure on prices since 2000 [30, 45, 46]. The major manufacturer, Monsanto, has typically not competed directly or solely on price, and instead has been successful in holding or expanding market share by bundling purchase of higher-price, Monsanto brand, Roundup herbicides with the purchase of Monsanto herbicide-tolerant seeds [45–47]. Especially in the U.S., this bundling strategy has been augmented by various volume incentives and discounts, special financing, rebates for purchase of other herbicides working through a mode of action other than glyphosate's (to delay the spread of resistant weeds), and other non-price benefits tailored to appeal to large volume customers [46–48].

The diversity of global uses in agriculture and other sectors has grown over the past 40 years [9], making it more difficult to compile accurate global data across all glyphosate uses, especially by sector and specific use. As a result, global glyphosate use projections can only be based on industry-wide glyphosate production figures, as done from 1997–2014 in Table 4 and Additional file 1: Table S24 [27].
Impact of GE-HT technology

The development and marketing of GE, Roundup Ready crops fundamentally changed how crop farmers could apply glyphosate. Before RR technology, farmers could spray glyphosate prior to crop emergence, for early-season weed control, or after harvest to clean up late-season weeds. But with RR crops, glyphosate could also be sprayed 1–3 times or more after the crop had emerged, leaving the crop unharmed but controlling all actively growing weeds. This historically significant technological advance set the stage for unprecedented and rapid growth in the area planted to RR crops and sprayed with glyphosate (from usually less than 10 % of cotton, maize, and soybean acres pre-1996, to 90 % or more today) [47, 49, 50].

The interplay of various factors leading to increased glyphosate use is apparent in Fig. 2a, which shows the trend in overall glyphosate use on the key GE-HT crops in the U.S., the correlation between reductions in average price per pound and use (Fig. 2b), and rising use and the emergence of resistant weeds (Fig. 2c).

Use of glyphosate on some GE-HT crops may have declined, or may soon begin declining in some regions because (a) adoption of GE-HT soybeans, cotton, and canola has peaked in most of the countries that have embraced GE technology [9], and (b) farmer willingness to pay for repeat applications of glyphosate, or further increase application rates, typically declines as glyphosate-resistant weeds become well established, as they have in much of the U.S. [13] and in Brazil and Argentina [10]. On the other hand, GE-HT crops may move into some regions not previously planting them (e.g., China), and reductions in the price of generic glyphosate herbicides could lead to more intensive use in some countries. In the countries that have planted the largest shares of GE-HT crops (the U.S., Argentina, and Brazil), glyphosate use rates per hectare per crop year have risen sharply since around 2000 [20, Additional file 1: Tables S2, S3, S22]. Worldwide on GE soybean and cotton, average total herbicide use per crop year per hectare has approximately doubled from 1996 to 2014, with the increase in glyphosate volumes applied per hectare accounting for nearly all of the per hectare increase. Maize herbicide use per hect-

are has risen modestly, if at all, in large part because adoption of GE-HT maize hybrids allowed farmers to reduce reliance on a half-dozen other widely used maize herbicides applied at relatively high rates (e.g., ~1 kg/hectare per crop year) [11].

Because GE-HT soybeans account for two-thirds of the total hectares planted to GE-HT crops worldwide, the doubling of average herbicide use per hectare of HT soybeans drives the sizable increase in overall herbicide on all GE crop hectares. There is, as well, a clear connection throughout South America in the adoption of GE-HT technology and no-tillage systems [17, 38]. No-till farming in South America lowers machinery and labor costs, and reduces soil erosion, but at the expense of heightened reliance on herbicides for weed control, and other pesticides to control insects and fungal pathogens. Despite gaps in publicly accessible data, the dramatically upward trajectories in glyphosate use in the U.S. and globally are unmistakable. In the pre-GE era (1974–1995) in the U.S., non-agricultural glyphosate uses accounted for ~34 to 42 % of total use. The share of total glyphosate use accounted for by the agricultural sector shifted markedly upward post-1996, starting at 66 % in 1996 and reaching 81 % 5 years later (2001) and 92 % by 2014 ([27], Additional file 1: Table S18).

The total volume of use and the split between agricultural and non-agricultural uses in the pre-GE era period are subject to greater uncertainty than in the 1996–2014 period. However, pre-1995 glyphosate use is minor compared to the post-GE period, when both data quantity and quality improved, especially covering applications in the U.S. and on global GE-HT hectares planted.

Rising use triggers new concerns

Driven by the growing diversity of uses and dramatic increases in volumes applied, levels of glyphosate and its primary metabolite aminomethylphosphonic acid (AMPA) have been detected in the air [51], soil [52], and water [49, 53]. With few exceptions though, contemporary levels of glyphosate in the air, water, and food result in typical human exposure estimates that remain well below the "levels of concern" or "Acceptable Daily Intakes" established by regulatory bodies around the world.

Still, a growing body of literature points to possible, adverse environmental, ecological, and human health consequences following exposure to glyphosate and/or AMPA, both alone [54] and in combination with ingestion of GE proteins (e.g., EPSPS, Bt endotoxins) [55]. Environmental studies encompass possible glyphosate impacts on soil microbial communities and earthworms [56–58], monarch butterflies [59], crustaceans [60], and honeybees [61].

Studies assessing possible risks to vertebrates and humans include evidence of rising residue levels in soybeans [62, 63], cancer risk [64], and risk of a variety of other potential adverse impacts on development, the liver or kidney, or metabolic processes [54, 55, 65–80].

Relative toxicity and impacts

For years, glyphosate has been regarded as among the least chronically toxic herbicides for mammals, and indeed only three EPA-registered synthetic pesticides in current agricultural use have a higher chronic Reference Dose (the imidazolinone herbicides imazamox, imazethapyr, and imazapyr). For human exposures, the U.S. EPA has set glyphosate's daily chronic Reference Dose (cRfD) at 1.75 milligrams per kilogram of bodyweight (mg/kg bodyweight/day). The EU-set cRfD for glyphosate was recently raised from 0.3 to 0.5 mg/kg/day, 3.5-fold lower than EPA's. A team of scientists has compiled evidence

supporting the need for a fivefold reduction in the EU cRfD to 0.1 mg/kg/day [81], a level 17-times lower than EPA's.

Glyphosate is a moderate dose herbicide with relatively low acute and chronic mammalian toxicity, to the extent mammalian risk is accurately reflected in required EPA toxicology studies. After an exhaustive review, however, glyphosate was classified in 2015 as a "probable human carcinogen" by the International Agency for Research on Cancer [64], based on increased prevalence of rare liver and kidney tumors in chronic animal feeding studies, epidemiological studies reporting positive associations with non-Hodgkin lymphoma, and strong mechanistic evidence of genotoxicity and ability to trigger oxidative stress [64].

The body of toxicological studies supporting glyphosate's current EPA and EU cRfD, and hence all contemporary uses of this herbicide, dates back to the early 1970s through mid-1980s [82]. Recent studies suggest that glyphosate in its pure form, and some formulated glyphosate end-use products, may be triggering epigenetic changes through endocrine-mediated mechanisms [54, 73, 75, 76, 79, 81, 83].

Evidence from multiple studies suggests that the kidney, and secondarily the liver, is at risk of glyphosate-triggered, or glyphosate-enhanced chronic degeneration [55, 71, 72, 84, 85]. Industry metabolism studies in farm animals, rats and mice, and rabbits were conducted in the 1970s and 1980s, and show that in animal feeding studies, glyphosate levels in the kidney usually exceed those in the liver by three- to tenfold, and those in the liver exceed levels in other tissues by a wide margin [86].

The apparent tendency of glyphosate to concentrate in the kidneys, coupled with glyphosate's action as a chelating agent, has led some scientists to hypothesize that glyphosate can bind to metals in hard drinking water, creating metallic-glyphosate complexes that may not pass normally through kidneys [71, 72]. For this, or other as yet unrecognized reasons, the risk of chronic kidney disease may be heightened in human and animal populations with heavy glyphosate exposure.

The IARC classification and emerging evidence relative to kidney damage and endocrine effects heightens the need for, and will complicate ongoing and future glyphosate worker and dietary-risk assessments. Annual residue tests are carried out by the U.K. Food Standards Agency (FSA). Residues of glyphosate were found in 10–30 % of grain-based samples from 2007–2013, at generally rising levels [87]. Glyphosate and AMPA residues are present at relatively high, and rising levels (over 1 ppm) in a high percentage of the soybeans grown in the U.S., Canada, Brazil, Argentina, Paraguay, countries which account for 86.6 % of the 11.6 billion bushels of soybeans produced globally in 2014, and nearly all global trade in soybeans and soybean-based animal feeds [34, 62].

Conclusions

A high level of confidence can be placed in the trends in glyphosate use in the U.S. because of consistency across three independently compiled datasets (USDA-NASS, EPA, and USGS).

A published paper by a pesticide industry consultant provides solid data on global glyphosate use in 1994–1997, both in the agricultural and non-agricultural sectors [29]. Lack of publicly accessible data on global glyphosate use since the mid-1990s increases the uncertainty in the global estimates reported herein. However, since the majority of the increase in global glyphosate use since the late-1990s was driven by the adoption of GE-HT crops, accessible data from ISAAA and the literature on GE-HT

crops provide a solid basis to project total glyphosate use on GE-HT crops over the last ~15 years.

By any measure, glyphosate-tolerant crop technology has been an enormous commercial success, and at least initially, simplified weed management in maize, soybean, and cotton crops both in the U.S. and worldwide [2, 9, 88]. For a few years post-1996, one, or at most two applications of glyphosate proved highly effective and economical on nearly all cropland planted to GE-HT seeds. As a result, the land area treated with glyphosate rose rapidly. Over time this triggered the emergence of weed phenotypes less sensitive or resistant to glyphosate. In response, farmers increased both the rate of glyphosate application as well as the number of applications [5, 6, 9, 88, 13]. Many farmers also integrated additional herbicides into spray programs [5–7, 89]. As a direct result, average herbicide use per hectare on land planted to GE-HT varieties has, on average, escalated steadily since the mid-1990s [8, 11, 88, 13].

The upward trend in glyphosate use has, and will likely continue to contribute to incremental increases in environmental loadings and human exposures to glyphosate, its major metabolite aminomethylphosphonic acid (AMPA), and various surfactants and adjuvants used in formulating end-use glyphosate-based herbicides.

Given that glyphosate is moderately persistent and mobile, levels in surface and groundwater will likely rise in step with use, and this will increase the diversity of potential routes of animal and human exposure.

Human exposures from around the home and urban uses of glyphosate also warrant closer attention. Most end-use, glyphosate products sold for home and urban use in developed countries contain relatively low concentrations of glyphosate, so the risk of experiencing an acutely toxic exposure is minimal. But in developing countries, risks stemming from applications of more concentrated glyphosate products and/or applications of "home-mixed" products should not be ignored.

The frequency and levels of glyphosate and residues in a variety of foods are increasing, and more refined dietary-risk assessments should be carried out. Reasonably accurate estimates of glyphosate residues and dietary exposures in areas lacking residue data can be made drawing on insights gained from risk assessments conducted in areas with accurate glyphosate use and residue data.

Abbreviations

AMPA:
Aminomethylphosphonic acid

Bt:
Bacillus thuringiensis

EPA:
Environmental Protection Agency

GBH:
Glyphosate-based herbicide

GE:
Genetically engineered

GE-HT:
Genetically engineered herbicide-tolerant [crop]

GMO:
Genetically engineered organism

HT:
Herbicide tolerant

Kg:
Kilogram

NASS:
National Agricultural Statistics Service (a USDA agency)

RR:
Roundup Ready

USDA:
United States Department of Agriculture

USGS:
United States Geological Service

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The author (CMB) conducted the research and wrote the paper while serving as a Research Professor at Washington State University (position ended 5/15/15). CMB ran the "Measure to Manage" program within the Center for Sustaining Agriculture and Natural Resources, and has worked for years compiling data on pesticide use in the U.S. and globally.

Competing interests

The author is a member of the U.S. Department of Agriculture's AC21 Agricultural Biotechnology Advisory Committee. From June 2012–May 2015, he served as a Research Professor at Washington State University. Dr. Benbrook's program at WSU received funding from foundations, organic food companies, and coops. He currently serves as an expert witness in litigation focused on the labeling of foods

A step further toward glyphosate-induced epidermal cell death: involvement of mitochondrial and oxidative mechanisms

By Heu C1, Elie-Caille C, Mougey V, Launay S, Nicod L

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Abstract

A deregulation of programmed cell death mechanisms in human epidermis leads to skin pathologies. We previously showed that glyphosate, an extensively used herbicide, provoked cytotoxic effects on cultured human keratinocytes, affecting their antioxidant capacities and impairing morphological and functional cell characteristics. The aim of the present study, carried out on the human epidermal cell line HaCaT, was to examine the part of apoptosis plays in the cytotoxic effects of glyphosate and the intracellular mechanisms involved in the apoptotic events. We have conducted different incubation periods to reveal the specific events in glyphosate-induced cell death. We observed an increase in the number of early apoptotic cells at a low cytotoxicity level (15%), and then, a decrease, in favor of late apoptotic and necrotic cell rates for more severe cytotoxicity conditions. At the same time, we showed that the glyphosate-induced mitochondrial membrane potential disruption could be a cause of apoptosis in keratinocyte cultures: A deregulation of programmed cell death mechanisms in human epidermis leads to skin pathologies. We previously showed that glyphosate, an extensively used herbicide, provoked cytotoxic effects on cultured human keratinocytes. At the same time, we showed that the glyphosate-induced mitochondrial membrane potential disruption could be a cause of apoptosis in keratinocyte cultures.

http://www.ncbi.nlm.nih.gov/pubmed/22522424

"Since we found genotoxic effects after short exposure to concentrations that correspond to a 450-fold dilution of spraying used in agriculture, our findings indicate that inhalation may cause DNA damage in exposed individuals"

Cytotoxic and DNA-damaging properties of glyphosate and Roundup in human-derived buccal epithelial cells

By Koller VJ, Fürhacker M, Nersesyan A, Mišík M, Eisenbauer M, Knasmueller S.

Abstract

Glyphosate (G) is the largest selling herbicide worldwide; the most common formulations (Roundup, R) contain polyoxyethyleneamine as main surfactant. Recent findings indicate that G exposure may cause DNA damage and cancer in humans. Aim of this investigation was to study the cytotoxic and genotoxic properties of G and R (Ul- traMax) in a buccal epithelial cell line (TR146), as workers are exposed via inhalation to the herbicide. R induced acute cytotoxic effects at concentrations > 40 mg/l after 20 min, which were due to membrane damage and impairment of mitochondrial functions. With G, increased release of extracellular lactate dehydrogenase indicative for membrane damage was observed at doses > 80 mg/l. Both G and R induced DNA migration in single-cell gel electrophoresis assays at doses > 20 mg/l. Furthermore, an increase of nuclear aberrations that reflect DNA dam- age was observed. The frequencies of micronuclei and nuclear buds were elevated after 20-min exposure to 10-20 mg/l, while nucleoplasmatic bridges were only enhanced by R at the highest dose (20 mg/l). R was under all conditions more active than its active principle (G). Comparisons with results of earlier studies with lymphocytes and cells from internal organs indicate that epithelial cells are more susceptible to the cytotoxic and DNA-damaging properties of the herbicide and its formulation. Since we found genotoxic effects after short exposure to concentrations that correspond to a 450-fold dilution of spraying used in agriculture, our findings indicate that inhalation may cause DNA damage in exposed individuals:

http://www.ncbi.nlm.nih.gov/pubmed/22331240

Aluminum and Glyphosate Can Synergistically Induce Pineal Gland Pathology: Connection to Gut Dysbiosis and Neurological Disease

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Conclusion

In this paper, we have developed the argument that glyphosate, the active ingredient in the herbicide, Roundup, and aluminum, a pervasive toxic metal in our environment, operate synergistically to induce dysfunction in the pineal gland leading to the sleep disorder that is characteristic of multiple neurological diseases, including autism, ADHD, depression, Alzheimer's disease, ALS, anxiety disorder and Parkinson's disease. We further argue that impaired supply of melatonin and sulfate to the brain as a consequence of pineal damage can explain how the disrupted sleep can lead to more general neurological damage, and we propose that this is a significant component of the disease process. The steady increase in glyphosate usage on corn and soy crops aligns remarkably well with the increase in sleep disorder and in autism, as well as other neurological diseases. We have shown how disruption of CYP enzymes and promotion of anemia and hypoxia, due to both aluminum and glyphosate, and disruption of gut bacteria by glyphosate, can cause a pathology leading to deficiencies in both melatonin and sulfate in the cerebrospinal fluid that is characteristic of autism and Alzheimer's disease. Insufficient sulfate leads to impaired lysosomal recycling of cellular debris, and insufficient melatonin leads to sleep disorder,vascular disease and impaired protection from ROS damage in the brain.

https://www.scirp.org/pdf/AS_2015011220442124.pdf

Major pesticides are more toxic to human cells than their declared active principles

By Mesnage R1, Defarge N1, Spiroux de Vendômois J2, Séralini GE1.

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Abstract

Pesticides are used throughout the world as mixtures called formulations. They contain adjuvants, which are often kept confidential and are called inerts by the manufacturing companies, plus a declared active principle, which is usually tested alone. We tested the toxicity of 9 pesticides, comparing active principles and their formulations, on three human cell lines (HepG2, HEK293, and JEG3). Glyphosate, isoproturon, luroxypyr, pirimicarb, imidacloprid, acetamiprid, tebuconazole, epoxiconazole, and prochloraz constitute, respectively, the active principles of 3 major herbicides, 3 insecticides, and 3 fungicides. We measured mitochondrial activities, membrane degradations, and caspases 3/7 activities. Fungicides were the most toxic from concentrations 300-600 times lower than agricultural dilutions, followed by herbicides and then insecticides, with very similar profiles in all cell types. De- spite its relatively benign reputation, Roundup was among the most toxic herbicides and insecticides tested. Most importantly, 8 formulations out of 9 were up to one thousand times more toxic than their active principles. Our results challenge the relevance of the acceptable daily intake for pesticides because this norm is calculated from the toxicity of the active principle alone. Chronic tests on pesticides may not reflect relevant environmental exposures if only one ingredient of these mixtures is tested alone: "Roundup™ was among the most toxic herbicides and insecticides tested. Most importantly, 8 formulations out of 9 were up to one thousand times more toxic than their active principles."

http://www.ncbi.nlm.nih.gov/pubmed/24719846

Glyphosate commercial formulation causes cytotoxicity, oxidative effects, and apoptosis on human cells: differences with its active ingredient

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Abstract

In the present study, the effects on oxidative balance and cellular end points of glyphosate, aminomethylphosphonic acid (AMPA), and a glyphosate formulation (G formulation) were examined in HepG2 cell line, at dilution levels far below agricultural recommendations. Our results show that G formulation had toxic effects while no effects were found with acid glyphosate and AMPA treatments. Glyphosate formulation exposure produced an increase in reactive oxygen species, nitrotyrosine formation, superoxide dismutase activity, and glutathione (GSH) levels, while no effects were observed for catalase and GSH-S-transferase activities. Also, G formulation triggered caspase 3/7 activation and hence induced apoptosis pathway in this cell line. Aminomethylphosphonic acid exposure produced an increase in GSH levels while no differences were observed in other antioxidant parameters. No effects were observed when the cells were exposed to acid glyphosate. These results confirm that G formulations have adjuvants working together with the active ingredient and causing toxic effects that are not seen with acid glyphosate:

"These results confirm that Glyphosate formulations have adjuvants working together with the active ingredient and causing toxic effects that are not seen with acid glyphosate"

http://www.ncbi.nlm.nih.gov/pubmed/24434723

Glyphosate induces human breast cancer cell growth via estrogen receptors

By Thongprakaisang, Thiantanawat A, Rangkadilok N, Suriyo T, Satayavivad J.

Abstract

Glyphosate is an active ingredient of the most widely used herbicide and it is believed to be less toxic than other pesticides. However, several recent studies showed its potential adverse health effects to humans as it may be an endocrine disruptor. This study focuses on the effects of pure glyphosate on estrogen receptors (ERs) mediated transcriptional activity and their expressions. Glyphosate exerted proliferative effects only in human hormone- dependent breast cancer, T47D cells, but not in hormone-independent breast cancer, MDA-MB231 cells, at 10 12 to 10 M in estrogen withdrawal condition. The proliferative concentrations of glyphosate that induced the activation of estrogen response element (ERE) transcription activity were 5-13 fold of control in T47D-KBluc cells and this activation was inhibited by an estrogen antagonist, ICI 182780, indicating that the estrogenic activity of glyphosate was mediated via ERs. Furthermore, glyphosate also altered both ER and expression. These results indicated that low and environmentally relevant concentrations of glyphosate possessed estrogenic activity. Glyphosate-based herbicides are widely used for soybean cultivation, and our results also found that there was an additive estrogenic effect between glyphosate and genistein, a phytoestrogen in soybeans. However, these additive effects of glyphosate contamination in soybeans need further animal study:

"These results indicated that low and environ- mentally relevant concentrations of glyphosate possessed estrogenic activity. Glyphosate exerted proliferative effects only in human hormone-dependent breast cancer, T47D cells"

http://www.ncbi.nlm.nih. gov/pubmed/23756170

"The cytotoxic, and potentially endocrine-disrupting effects of Roundup are thus amplified with time.

Taken together, these data suggest that Roundup exposure may affect human reproduction and fetal development in case of even low dose contamination."

Time- and dose-dependent effects of roundup on human embryonic and placental cells

By Benachour N1, Sipahutar H.,
Moslemi S, Gasnier C, Travert C, Séralini GE.

1. Laboratoire Estrogénes et Reproduction, USC-INRA
IBFA, Université de Caen, Caen, France

Abstract

Roundup is the major herbicide used worldwide, in particular on genetically modified plants that have been designed to tolerate it. We have tested the toxicity and endocrine disruption potential of Roundup (Bioforce on human embryonic 293 and placental-derived JEG3 cells, but also on normal human placenta and equine testis. The cell lines have proven to be suitable to estimate hormonal activity and toxicity of pollutants. The median lethal dose (LD(50)) of Roundup with embryonic cells is 0.3% within 1 h in serum-free medium, and it decreases to reach 0.06% (containing among other compounds 1.27 mM glyphosate) after 72 h in the presence of serum. In these conditions, the embryonic cells appear to be 2-4 times more sensitive than the placental ones. In all in- stances, Roundup (generally used in agriculture at 1-2%, i.e., with 21-42 mM glyphosate) is more efficient than its active ingredient, glyphosate, suggesting a synergistic effect provoked by the adjuvants present in Roundup. We demonstrated that serum-free cultures, even on a short-term basis (1 h), reveal the xenobiotic impacts that are visible 1-2 days later in serum. We also document at lower non-overtly toxic doses, from 0.01% (with 210 microM glyphosate) in 24 h, that Roundup is an aromatase disruptor. The direct inhibition is temperature-dependent and is confirmed in different tissues and species (cell lines from placenta or embryonic kidney, equine testicular, or human fresh placental extracts). Furthermore, glyphosate acts directly as a partial inactivator on microsomal aromatase, independently of its acidity, and in a dose-dependent manner. The cytotoxic, and potentially endocrine-disrupting effects of Roundup are thus amplified with time. Taken together, these data suggest that Roundup exposure may affect human reproduction and fetal development in case of contamination. Chemical mixtures in formulations appear to be underestimated regarding their toxic or hormonal impact:

http://www.ncbi.nlm.nih. gov/pubmed/17486286

"The direct effect of glyphosate on early mechanisms of morphogenesis in vertebrate embryos opens concerns about the clinical findings from human offspring in populations exposed to GBH in agricultural fields. Xenopus laevis embryos were incubated with 1/5000 dilutions of a commercial GBH. The treated embryos were highly abnormal with marked alterations in cephalic and neural crest development and shortening of the anterior–posterior (A-P) axis."

Glyphosate-Based Herbicides Produce Teratogenic Effects on Vertebrates by Impairing Retinoic Acid Signaling

August 9, 2010 • American Chemical Society

Abstract

The broad spectrum herbicide glyphosate is widely used in agriculture worldwide. There has been ongoing controversy regarding the possible adverse effects of glyphosate on the environment and on human health. Reports of neural defects and craniofacial malformations from regions where glyphosate-based herbicides (GBH) are used led us to undertake an embryological approach to explore the effects of ***low doses*** of glyphosate in development. The direct effect of glyphosate on early mechanisms of morphogenesis in vertebrate embryos opens concerns about the clinical findings from human offspring in populations exposed to GBH in agricultural fields.

https://pubmed.ncbi.nlm.nih.gov/20695457/

CHAPTER FIVE

TAP WATER

POISON FIVE

The practice of making water safe—no viral, fungal or bacterial products—to drink actually involves adding large amounts of extremely poisonous chemicals to it. Key scientists are now providing evidence that long-term ingestion of small amounts of chemicals like these could be the cause of some major health problems. Most of these tap water Disinfection ByProducts remain in the tap water in small amounts. We've discovered over 600 chemicals in tap water but we suspect there are 1000s more.

As mentioned previously, a cities budget determines what process is employed to disinfect their tap water. Some smaller cities with small populations may be using methodology developed over 100 years ago or more while larger cities with more financial resources may be employing sophisticated up-to-date, state-of-the-art disinfection systems employing many chemicals and filtration systems.

Here we discuss just a few of the chemicals routinely added to our water supply and the health effects these chemicals, even in minute amounts, have on the human body.

We recently had a fiasco, still ongoing, in Flint, Michigan that exploded across the media—lead in their water. Most recently the State of New Jersey recognized over 150,000 miles of water delivery pipe providing supposedly clean, potable water to day care centers, schools, businesses, homes and apartments need to be replaced. They're contaminated and releasing lead into the water.

The problem here, and it's a significant one, is that cities won't test their water unless there's a strong enough public drive. I don't remember when lead pipe and lead solder were phased out of use but it wasn't that long ago.

Tap Water Disinfection ByProducts have been largely unexplored by the medical research community yet we do still have relevant peer review from highly respected institutions, many considered the best in their respective fields.

Rating Human Toxicity

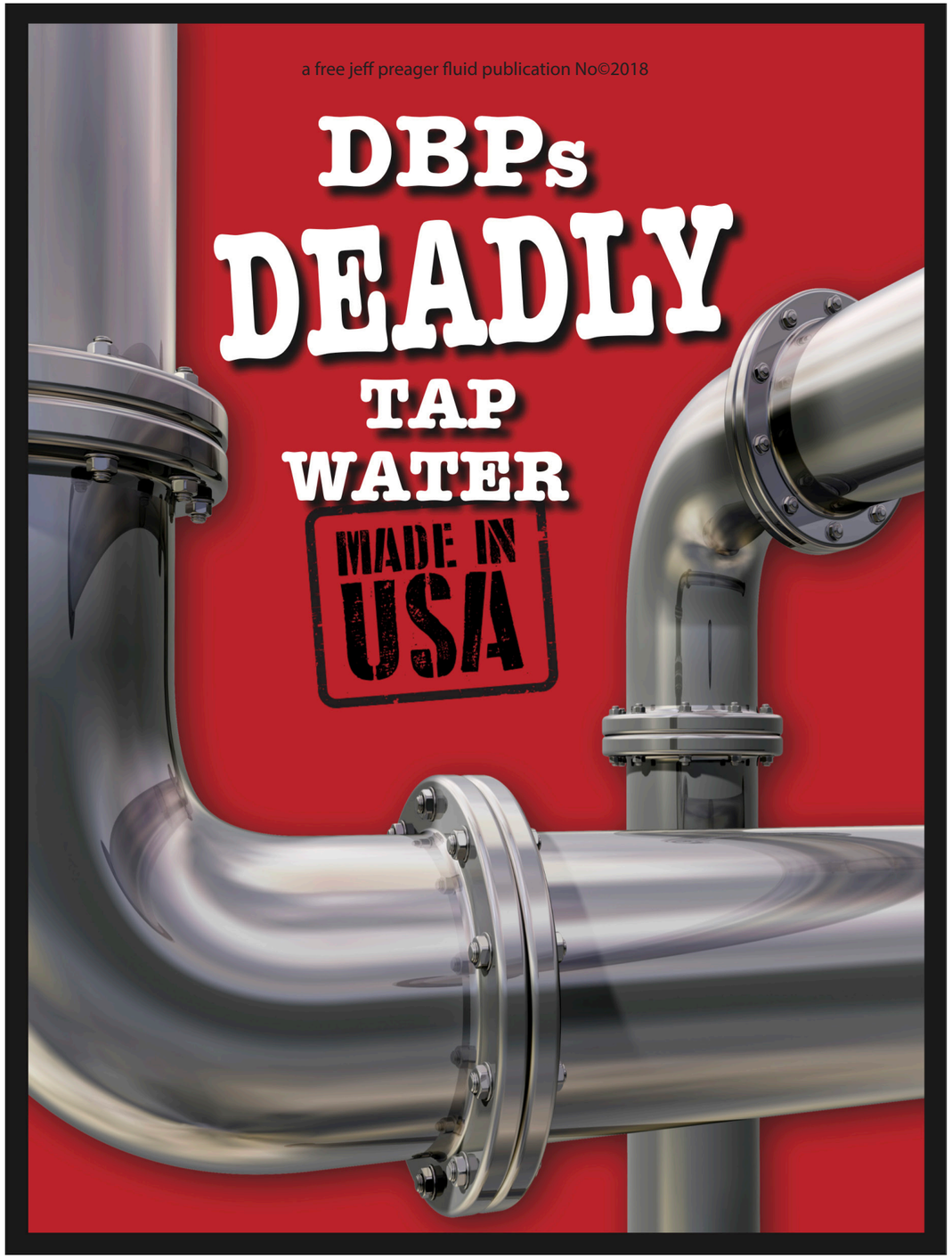
For the 13 deadly disinfection by-product contaminants chosen and listed in the introduction, the rank order of human genotoxicity (toxic on a genetic and therefore an epigenetic level) is as follows:

MX > DBN > IA > BCN > BA > TCN > DBA > DCA > CA, TCA, DCN > CN, CH

This means that MX has the greatest genotoxicity and CN and CH have the least with the remaining chemicals in descending order of genotoxicity. However, the difference be- tween the genotoxicity of one chemical as compared to others can be alarming in many cases. For example, MX is approximately 370,000 more genotoxic than DCA and 19,200 times more genotoxic than CH. A statistically significant correlation was found between cytotoxicity and genotoxicity of the 13 DBPs.

Drinking water disinfection by-products (DBPs) are generated by the chemical disinfection of water and may pose hazards to public health. Two major classes of DBPs are found in finished drinking water: haloacetic acids (HAAs) and trihalomethanes (THMs). HAAs are formed following disinfection with chlorine, which reacts with iodide and bromide in the water. Previously the HAAs were shown to be ***cytotoxic, genotoxic, mutagenic, teratogenic and carcinogenic.***

In the journal Mutation Research, Dr's Ali, Kurzawa-Zegota, Najafzadeh, Gopalan, Plewa and Anderson



https://www.academia.edu/40419571/DBPs_Our_Deadly_Tap_Water

with the Genetic & Reproductive Toxicology Group, Medical Sciences Division, School of Life Sciences, University of Bradford, in the United Kingdom found that "[T]wo major classes of disinfection by-products are found in finished drinking water: haloacetic acids and trihalomethanes. Previously the haloacetic acids were shown to be cytotoxic, genotoxic, mutagenic, teratogenic and carcinogenic."

These observations are of concern to public health since both human somatic and germ cells show similar genotoxic responses.

Source: http://www.ncbi.nlm.nih.gov/pubmed/25771880

The National Exposure Research Laboratory at the US Environmental Protection Agency in Athens, GA found the following:

"The potential interactions among the 600 identified Disinfection by-products in the complex mixture of drinking water to which we are exposed by various routes is not reflected in any of the toxicology studies of individual Disinfection by-products."

Source: http://www.ncbi.nlm.nih.gov/pubmed/17980649

The Metropolitan Water District of Southern California in La Verne, California found the following:

"A survey of disinfection byproduct (DBP) occurrence in the United States was conducted at 12 drinking water treatment plants. In addition to currently regulated disinfection byproducts, more than 50 disinfection byproducts that rated a high priority for potential toxicity were studied. In addition, 28 new, previously unidentified disinfection byproducts were detected. These included brominated and iodinated haloacids", a brominated ketone, and chlorinated and iodinated aldehydes."

Source: http://www.ncbi.nlm.nih.gov/pubmed/17180964

The rank order of the DNA-damaging potency of the 12 unfilterable tap water disinfection by-products is as follows:

bromodichloromethane (BDCM)>
dibromochloromethane (DBCM)>
tribromomethane (TBM)>
trichloromethane (TCM)

of the four trihalomethanes;
iodoacetic acid (IA)>
bromoacetic acid (BA)>
dibromoacetic acid (DBA)>
dichloracetic acid (DCA)>
trichloroacetic acid (TCA)

of the five haloacetic acides;
dibromoacetonitrile (DBN)>
approximately dichloroacetonitrile (DCN)>
trichloroacetonitrile (TCN)

PHARMACEUTICALS IN TAP WATER

Including perfume, cologne, skin lotions, make-up, bug sprays and sunscreens

Although maybe not as tasty as an ice-cold gulp from a mountain spring, the water that flows through most American kitchen faucets is generally clean, clear, and safe from prohibited nasties include bacteria, viruses, pesticides, petroleum products, strong acids, and some metals.

But water quality experts and environmental advocates are increasingly concerned about another kind of water pollution: chemicals from prescription drugs and over-the-counter medications that get into lakes, rivers, and streams. Water also gets contaminated by perfume, cologne, skin lotions, and sunscreens that wash off people's skin.

Drug take-back programs, which allow people to drop off their unused medications at central locations, serve two purposes. They keep unused drugs out of the water and prevent diversion of drugs, mainly the opioid painkillers, for recreation and illegal purposes.

Another step in the right direction is new guidelines from the federal Environmental Protection Agency (EPA) that discourage hospitals and nursing homes from flushing unused drugs down the drain or toilet but it's not enough. Guidelines for individuals also discourage flushing most, but not all, unused drugs. The question now is whether these and other efforts will be enough to keep the chemicals out of the water at a time when the use of pharmaceuticals and personal care products continues to grow at a rapid rate. The answer, based on the peer review, is that it's not helping.

Chemicals also get into the water from the drugs we use. Our bodies metabolize only a fraction of most drugs we swallow. Most of the remainder is excreted in urine or feces (some is sweated out) and therefore gets into wastewater. An increasing number of medications are applied as creams or lotions, and the unabsorbed portions of those medications can contribute to the pollution problem when they get washed off. It's been calculated, for example, that one man's use of testosterone cream can wind up putting as much of the hormone into the water as the natural excretions from 300 men.

Health care institutions are another source of pharmaceutical water pollution. Hospitals are probably less of a problem than nursing homes because they typically have on-site pharmacies with arrangements in place to return unused drugs to manufacturers for credit or disposal. Nursing homes, though, have often been guilty of flushing medications down the toilet or drain after a patient dies or is transferred to another facility. Typically, they don't have the same kind of return arrangements as hospitals. And the rules for getting rid of opioid painkillers, which make disposal down the drain an acceptable option, have inadvertently encouraged some nursing homes to dispose of all their leftover medications that way.

Drug manufacturing also results in some pharmaceutical pollution, although some factories are bigger problem than others. For example, a U.S. Geological Survey study found contamination levels downstream from two drug manufacturing plants in New York State that were 10 to 1,000 times higher than those at comparable facilities around the country.

Agriculture is another major source. The two trillion pounds of animal waste generated by large-scale poultry and livestock operations in this country is laced with hormones and antibiotics fed to animals to make them grow faster and to keep them from getting sick. Inevitably, some of those hormones and antibiotics leach into groundwater or get into waterways.

How bad is the problem?

A study conducted by the U.S. Geological Survey in 1999 and 2000 found measurable amounts of one or more medications in 80% of the water samples drawn from a network of 139 streams in 30 states. The drugs identified included a witches' brew of antibiotics, antidepressants, blood thinners, heart medications (ACE inhibitors, calcium-channel blockers, digoxin), hormones (estrogen, progesterone, testosterone), and painkillers. Scores of studies have been done since. Other drugs that have been

found include caffeine (which, of course, comes from many other sources besides medications); carbamazepine, an anti-seizure drug; fibrates, which improve cholesterol levels, some fragrance chemicals (galaxolide and tonalide) and ibuprophen.

Sewage treatment plants are not currently designed to remove pharmaceuticals from water. Nor are the facilities that treat water to make it drinkable. Yet a certain amount of pharmaceutical contamination is removed when water gets treated for other purposes. For example, some research shows that conventional treatment methods result in a 90% decrease in the amount of ibuprofen and naproxen in the water discharged from sewage treatment plants. On the other hand, treatment doesn't seem to have much effect on the levels of drugs such as carbamazepine and diclofenac (a pain reliever).

Some aspects of sewage treatment may remove pharmaceuticals from the water, but as a result, concentrations in sludge increase. Some of that sludge is used as fertilizer, so the pharmaceuticals are getting into the environment in another way.

Drinking-water treatment may also get rid of some pharmaceutical contamination. Chlorine is used to kill bacteria and other pathogens, but it also seems to degrade or remove acetaminophen, codeine, and the antibiotic sulfathiazole. A 2007 study of one drinking-water plant found that conventional treatment methods reduced the concentrations of several important medications (acetaminophen, carbamazepine) by 75%.

Still, there's really not much question that some pharmaceutical pollution persists and does wind up in the water we drink. In 2008, the Associated Press published a series of investigative articles about pharmaceutical contamination in drinking water. The journalists uncovered test results that showed the water supplies for 24 major metropolitan areas had detectable levels of pharmaceuticals. Scientists from the Southern Nevada Water Authority and other organizations reported results in 2010 from a study analyzing drinking water from 19 treatment plants. Their tests found antidepressants, antipsychotics, antibiotics, beta blockers, and tranquilizers, although only in trace amounts and far below levels thought to have an effect on humans. Unless human beings are drinking that water every day for several years. Nor do we know the synergistic effect of these 1000s of chemicals.

It's possible that there's a cumulative effect also on people from even tiny amounts of these and other pharmaceuticals in drinking water. And perhaps vulnerable populations (pregnant women, people with disabilities) are affected, we just don't know.

Effects on fish and wildlife

In contrast to the uncertainty about human health effects, there's quite a bit of evidence for pharmaceuticals in the water affecting aquatic life, particularly fish. Numerous studies have shown that ***estrogen and chemicals that behave like it have a feminizing effect on male fish and can alter female-to-male ratios***.

Sources of estrogen include birth control pills and postmenopausal hormone treatments, as well as the estrogen that women produce naturally and excrete. Intersex fish — creatures with both male and female sex characteristics — have been found in heavily polluted sections of the Potomac River. Studies of fish upstream and downstream of wastewater treatment plants have found more female and intersex fish downstream from the plants, presumably because of the higher estrogen levels in the

downstream water. Other research has uncovered popular antidepressant medications concentrated in the brain tissue of fish downstream from wastewater treatment plants.

With the results of the USGS survey, there is a palpable anxiety about the public health implications of pharmaceuticals showing up in drinking water, but experts say we may not have any idea what the actual effects will be of chronic low-dose exposure to these drugs for years to come.

"There is obviously real concern about it, meaning that it is reasonable to anticipate that there are likely going to be health consequences from these kinds of contaminants," said Dr. Ken Spaeth, chief of occupational and environmental medicine for Northwell Health System. "How much of that translates at the tap is hard to say," said Spaeth, who wasn't affiliated with the research. Experts and health officials are also grappling with how to accurately test for these contaminants.

Your Drinking Water Is Polluted By Big Pharma And The Planets Chemical Manufacturers And The Agricultural Industry—Big Farma

Scientists studying the world's rivers found dangerous levels of drugs are contaminating water on every continent — including in the U.S. — because pharmaceuticals are not purified out of drinking water systems.

Las Vegas' wastewater treatment system dumps into Lake Mead, which then flows down the Colorado River and is piped and pumped out of the river to serve as the drinking water source for all of Southern California.

But drugs — pharmaceuticals specifically — are not purified out of wastewater and are often not purified out of drinking water systems unless very expensive purification systems are used.

On Feb. 14, 2022, a scientific paper was released that studied the level of drugs, chemicals and pharmaceuticals in rivers across the planet.

The study, which is part of the University of York-led "Global Monitoring of Pharmaceuticals Project" and was published in the Proceedings of the National Academy of Science, shows some astounding results.

As summarized in Science Daily, the study found:

• Pharmaceutical pollution is contaminating water on every continent.

• There are strong correlations between the socioeconomic status of a country and higher pollution of pharmaceuticals in its rivers (with lower-middle-income nations the most polluted).

• The most polluted countries and regions of the world are the ones that have been researched the least (namely sub-Saharan Africa, South America and parts of southern Asia).

• The activities most associated with the highest levels of pharmaceutical pollution included rubbish dumping along river banks, inadequate wastewater infrastructure and pharmaceutical manufacturing, and the dumping of the contents of residual septic tanks into rivers.

The scientific study went further to say that drugs that have polluted rivers across the world represent a "global threat to environmental and human health." The researchers behind the study measured the concentration of 61 "Active Pharmaceutical Ingredients" (APIs) at more than 1,000 sites along 258 rivers and in 104 countries on all continents. Only two places were found to not be polluted by the drugs — Iceland and an isolated indigenous village in Venezuela. A multitude of drugs were detected in rivers including:

• Carbamazepine, an anti-epileptic drug
• Metformin, a diabetes drug

• Caffeine
• Antibiotics

The study measured levels of drugs to determine if those levels could cause "adverse effects" to organisms living in the rivers or to humans feeding off of fish and other aquatic life in rivers.

Science Daily reported that "the contaminants found at potentially harmful concentrations" include:

• Propranolol (a beta-blocker for heart problems such as high blood pressure).
• Sulfamethoxazole (an antibiotic for bacterial infection).
• Ciprofloxacin (an antibiotic for bacterial infection).
• Loratadine (an antihistamine for allergies).

APIs end up in rivers after being used by people and then excreted into sewer systems.

APIs are also given to livestock whose excretions are often discharged directly into rivers and/or groundwater.

Further, pharmaceutical factories themselves can "leak" out APIs as well as discharge their API waste into rivers.

"Hotspots" for APIs were near cities across the planet, including in the U.S.

The study reported that, "The most extensively studied country in this work was the United States. Here, 81 sampling sites were monitored (Dataset S2) along 29 rivers across 8 states (Colorado, Florida, Hawaii, Iowa, Missouri, Nevada, New York, and Texas)."

In the U.S., Dallas was considered a "hot spot" with cumulative concentrations of 10,000 nanograms/liter (parts per trillion) of APIs, while Las Vegas came in behind Dallas at ~5,000 nanograms/liter of APIs. In a news report about the study, The Guardian stated:

"Pharmaceuticals and other biologically active compounds used by humans are known to harm wildlife and antibiotics in the environment drive up the risk of resistance to the drugs, one of the greatest threats to humanity."

John Wilkinson, at the University of York in the UK, and who led the study involving 127 researchers from 86 institutions, told The Guardian:

"'The World Health Organization and UN and other organizations say antimicrobial resistance is the single greatest threat to humanity — it's a next pandemic.'" Many cities in the U.S. pump their drinking water supplies directly out of local rivers and then purify that water to make it healthy for humans. However, the degree to which pharmaceuticals are cleaned out of drinking water varies across the U.S.

In Southern California, for example, about half of all drinking water comes from the Colorado River which is downstream of Las Vegas and also downstream of massive numbers of cattle feedlots and grazing lands across the Southwest U.S.

most major cities have lead in their water systems

New Jersey announced Thursday it is notifying nearly 200,000 homes and businesses that they are receiving drinking water from service lines contaminated with lead, according to the state Department of Environmental Protection. The announcement came on the heels of the state's Lead Service Line Replacement law, which was enacted in July 2021. The law calls for the replacement of these service lines by 2031.

The 186,830 known lead service lines identified by the DEP feed into buildings all over the state, officials said. A map on the DEP's website allows residents to enter their addresses and see if they are affected.

Service lines are the portion of a pipe that connect a water main to a building inlet and therefore could be serving multiple units within a property and could be serving both residential and commercial properties, according to the New Jersey DEP. Therefore, the total number of people affected is unknown. New Jersey alone has almost 3,500 drinking water systems, Shawn LaTourette, the state environmental commissioner, said Thursday.

Widespread lead contamination has also been found in Philadelphia schools.
https://whyy.org/articles/researchers-cite-widespread-lead-contamination-in-water-at-philadelphia-schools/

There Is NO Safe Level Of Lead

"There is no safe level of lead in drinking water or elsewhere," LaTourette said. "We have to eliminate it where we find it, period." "It poses a significant threat, particularly to our children" LaTourette added.

Water systems were required by the new law to notify residents no later than Monday if their drinking water was coming from one of the identified lead service lines. Water systems submit inventories of the lead service lines in their service areas to the DEP, most recently in January. In Benton Harbor, Michigan, they plan to replace the pipes in 18 months amid a drinking water crisis of tap water contaminated with lead.
https://www.jmeagle.com/michigan-replace-lead-pipes-benton-harbor-18-months-amid-drinking-water-crisis

According to the DEP, homes and buildings constructed before 1988 must determine if interior lead solder or lead pipes are present. The DEP also said that those notified they have a lead service line need to replace it in full, from main to home. Until the lines are replaced, residents are encouraged to let the water run from the tap for about 15 to 30 seconds to flush out the lead.

But allowing the tap water to run for 15 to 30 seconds does absolutely nothing to remove lead from

Above, Newark, NJ

tap water. You could let the water run for 15 to 30 hours and little would change as regards the lead content. Boiling water only consolidates and increases the lead content. An extremely expensive water filtration system will remove 99-100% of lead from tap water, a system few people can afford.

If, by now, you can't see or understand that the human population of the planet has been poisoned for over a century by an elite intent on depopulation by any method necessary from war to biological and nuclear attacks to faked pandemics replete with mass murder by treatment (or lack thereof) protocols using well-known methods that will assuredly bring about death in the most vulnerable among us, I nor anyone else can help you. This includes the 17,000 fact-checked medical professionals that signed the Great Barrington Declaration. Their position is firm, Stop The Injections.

They are deadly. They are not safe as the peer review herein clearly explains, they do not prevent acquiring CoV-2 and they do not prevent infection or transmission. They are what the peer review terms "Leaky Vaccines," as opposed to sterilizing vaccines, which prevent contagion and disease.

At least 85% of the 900 million plus Americans that were murdered-by-US-COVID-19-protocol did not have to die. We now know, and we and the DoD knew at the beginning of this scamdemic based on DoD documents recently leaked that have been vetted and Fact-Checked, that Ivermectin and Hydroxychloroquine were antidotes to CoV-2 or COVID-19.

We've known for decades that D3 levels above 50 nanogram's per milliliter will prevent illness from almost all viral and bacterial infections. Your doctor may tell you to supplement with D3 but what he won't tell you is that our cells have a difficult time taking up D3 and that you need a D3 delivery system which is K2 and Magnesium. When taken with D3 a person of normal weight can move their D3 level up by at least 15-25 points per year. Your family physician, in most cases, won't tell you anything of value at all where your health is concerned. Consult only independent physicians unaffiliated with a hospital or corporate system for your health safety.

The injected, as the peer review herein attests to, will experience damaged immune systems, microscopic blood clots, neurological disorders, cancers, viruses of all sorts, autoimmune diseases and bacterial infections over the next 2-15 years. Count on it. The peer review is clear.

THE TRUTH IS HARD TO SWALLOW

CHAPTER SIX

THE PSYCHPATHS BEHIND THE CURTAIN

COVID Criminal Network Leads To The Gates Of Hell

https://clubderklarenworte.de/wp-content/uploads/2021/09/Netzwerkanalyse-Corona-Komplex.pdf

German Club Der Klaren Worte, or the Club of Clear Words, takes a deep dive into the network of individuals and organizations responsible for the COVID scam.

The review is led by journalist and filmmaker Markus Langemann. As noted by Langemann, it's not necessarily the people with the best ideas who win in life. Rather, the winners are those who are in the "right" network — a network with people in the right places. Never underestimate the power of a network. Some networks are visible. One example would be an alumni network that you can join and use to promote your career. Other networks are more hidden, secretive and exclusive, and can only be entered into by select invitation by another member or by the organization itself. Klaus Schwab's "Young Global Leaders" is just such an organization.

Whether blatantly visible or not, you can identify just about any network by connecting dots between individuals and organizations. Who's working with whom, where, and why? Who's paying whom? And once you've done that, you can more clearly identify the motivations behind various decisions.

A Global Network Revealed

Langemann presents "a network document that is unique in the world and which for the first time shows you the complex network of relationships, from non-governmental organizations (NGOs), companies, documents and people."

The 170-page document details more than 7,200 links between 6,500 entities and objects, including payment flows and investments.

"In the case of the Bill & Melinda Gates Foundation, already on page 4 of the document, you see that this foundation spent $43 billion [note that is billion with a "b"] in the U.S. alone in the period from 1994 to 2001, and distributed around half a billion dollars in Germany during this period," Langemann says.

You can review and download the document here.
https://clubderklarenworte.de/wp-content/uploads/2021/09/Netzwerkanalyse-Corona-Komplex.pdf

The document is mostly in English. It's incredibly comprehensive in scope, detailing a global network that is working behind the scenes to influence global health, finance and governance.

As an interesting aside, the document was actually created using software that investigators and detectives use to help them identify hidden connections between potential suspects. All of the data points, documents, payment data and so on, are publicly available.

Red arrows are used throughout the document to indicate money flows, such as grants, donations and other payments. As one example, as shown on page 3 of the document, at least 21 U.S. universities are

financed by and through just three key organizations:

- The Bill & Melinda Gates Foundation
- The Open Philanthropy project, A Soros foundation, which is linked to the WEF
- The Wellcome Trust, founded on the back of Eugenics, located in the U.K.

A Small Tight-Knit Group

According to the anonymous IT specialist who created the document, the core of this "COVID criminal network," around whom most everything revolves, is no larger than 20 or 30 people. Several of them appear on page 36.

They got together on May 8th, 2019, at a CDU/CSU event where they discussed how to strengthen global health and implement the United Nations Sustainable Development Goals. The CDU/CSU is a political alliance of two German political parties, the Christian Democratic Union of Germany (CDU) and the Christian Social Union in Bavaria (CSU). Attendees included:

Hermann Gröhe, Christian Democration Union (CDU) member and former Minister of Health
Ralph Brinkhaus, Parliamentary leader of the CDU
Dr. Angela Merkel, former Chancellor of Germany and a CDU member
Ilona Kickbush, Ph.D., Graduate Institute of International and Development Studies, Geneva
Tedros Adhanom Ghebreyesus, Director-General of the WHO
Dr. Christian Drosten, a German virologist who in early 2020 created the COVID PCR test
Dr. Clarissa Prazeres da Costa, microbiologist and infectious disease specialist
Joe Cerrell, managing director for Europe, the Middle East and East Asia for The Gates Foundation
Professor Jeremy Farrar, director of the Wellcome Trust
Dr. Georg Kippels, CDU member
Jens Spahn, CDU member and a former Minister of Health

From that May 2019 meeting onward, these individuals are found again and again, in overlapping working groups. You also find them rubbing elbows in the past.

For example, Farrar, Drosten and Kickbush were all present at a February 14, 2019, tabletop exercise on International Response to Deliberate Biological Events, held at the Munich Security Conference, as shown on page 124. Individuals from the Robert Koch Institute, the Chinese CDC and the Gates Foundation were also present. In 2017 and 2018, Kickbush, Drosten and Farrar were added as members to the International Advisory Board on Global Health. Farrar and Kickbush also joined the Global Preparedness Monitoring Board, a joint arm of the WHO and the World Bank, formally launched in May 2018. (Dr. Anthony Fauci is another member of this board.) Two other key persons within this network are:

Dr. Chris Elias, president of the Global Development Program at the Gates Foundation. He too is on both the Global Preparedness Monitoring Board and the International Advisory Board on Global Health, together with Kickbush, Drosten and Farrar and Dr. Peter Piot, a Belgian-British microbiologist known for his research into Ebola and AIDS, a professor of global health, director of the London School of Hygiene and Tropical Medicine, a senior fellow with the Gates Foundation's Global Health Program, and former undersecretary-general with the United Nations.

Key Organizations

Due to the complexity of the network connections, there's really no easy way to summarize them here. You simply have to go through the document, page by page. That said, key organizations, whose networking connections are detailed, include:

The Bill & Melinda Gates Foundation
The Wellcome Trust, an organization funded by and strategically linked to GlaxoSmithKline (a vaccine maker in which Bill Gates is financially invested)
The World Health Organization
The Rockefeller Foundation
The World Bank Group
The World Economic Forum (WEF)
GAVI, the Vaccine Alliance, founded by the Gates Foundation
Coalition for Epidemic Preparedness Innovations (CEPI), founded by the governments of Norway and India, the Gates Foundation, the Wellcome Trust and WEF
The Global Fund
Forum of Young Global Leaders, founded by WEF in 2004
FIND, the global alliance for diagnostics, seeks to ensure equitable access to reliable diagnosis around the world
Big Pharma
Johns Hopkins University
Charité, Universitätsmedizin Berlin
The Robert Koch Institute
The European Commission
The European Medicines and Healthcare Products Regulatory Agency (MHRA)
The Swiss Agency for Therapeutic Products
The German Global Health Hub

Of these, The Bill & Melinda Gates Foundation appears to be near the top, or the center, of this criminal network, depending on how you visualize it. Gates is also a major funder of mainstream media which, of course, is important if you want to ensure one-sidedly good press.

Gates' Media Control

In the past, the Bill & Melinda Gates Foundation funded the placement of "educational" messages in popular TV shows such as "ER," "Law & Order: SVU" and "Private Practice," including topics such as HIV prevention, surgical safety and the spread of infectious diseases, i.e., vaccinations.2 But that was only the beginning.

Via more than 30,000 grants, Gates has contributed at least $319 million to the media, including CNN, NBC, NPR, PBS, The Atlantic, Texas Tribune (U.S.), the BBC, The Guardian, The Financial Times, The Daily Telegraph (U.K.), Le Monde (France), Der Spiegel (Germany), El País (Spain) and global broadcasters like Al-Jazeera.3
More than $38 million of Gates' money has also been funneled to investigative journalism centers. The majority of that money has gone into developing and expanding media in Africa.4 As you might suspect, Gates' donations come with strings attached. As reported by Columbia Journalism Review:5

"When Gates gives money to newsrooms, it restricts how the money is used — often for topics, like global health and education, on which the foundation works — which can help elevate its agenda in the news media.

For example, in 2015 Gates gave $383,000 to the Poynter Institute, a widely-cited authority on journalism ethics … earmarking the funds 'to improve the accuracy in worldwide media of claims related to global health and development.' Poynter senior vice president Kelly McBride said Gates's money was passed on to media fact-checking sites ...

Since 2000, the Gates Foundation has given NPR $17.5 million [now up to $24.6 million6] through 10 charitable grants — all of them earmarked for coverage of global health and education, specific issues on which Gates works."

Who Else Controls the Media?

Gates' power over the media is immense, but he's a not a sole actor. Other players in media control include BlackRock and the Vanguard Group, the two largest asset management firms in the world, which also control Big Pharma.7 They're at the top of a pyramid that controls basically everything, but you don't hear about their terrifying monopoly because they also own the media. As noted in the video, "The Puppet Masters Portfolios," Vanguard and Blackrock:8

"... own the news that's been created, they own the distribution of the news that's been created, they own the lives of the reporters that are reporting the news that's being distributed that's being created on your TV screen. CBS, FOX, ABC, it doesn't matter which you're watching."

As it stands, it's important to be aware that conventional media are under the control of powerful influences — be it Bill Gates, BlackRock or Vanguard — and their primary intent isn't to give you objective information but, rather, to further the agendas of those influences.

Who Really Owns the World?

BlackRock and Vanguard also own shares in an impossibly long list of virtually every major company in the world. Aside from world media, the companies controlled by Blackrock and Vanguard span everything from entertainment and airlines to social media and communications9 — quite literally everything you can think of, and much that you can't.

Together, they form a hidden monopoly on global asset holdings, and through their influence over our centralized media, they have the power to manipulate and control a great deal of the world's economy and events, and how the world views it all.

In all, BlackRock and Vanguard have ownership in some 1,600 American firms, which in 2015 had combined revenues of $9.1 trillion. When you add in the third-largest global owner, State Street, their combined ownership encompasses nearly 90% of all S&P 500 firms.10 Interestingly, Vanguard also holds a large share of Blackrock. In turn, Blackrock has been called the "fourth branch of government" by Bloomberg as they are the only private firm that has financial agreements to lend money to the central banking system.11

Owners and stockholders of Vanguard include Rothschild Investment Corp,12 Edmond De Rothschild Holding,13 the Italian Orsini family, the American Bush family, the British Royal family, and the du Pont family, the Morgan, Vanderbilt and Rockefeller families.14,15

Gates Dictates Global Food Policy Too

In addition to his grip on global health and media, Bill Gates' network also includes global food and agricultural policy. He's even one of the largest farmland owners in the U.S.16 Were Gates a proponent of organics, his land ownership would probably be seen as a good thing, but he's anything but.

On the contrary, not only is he a longtime proponent of GMOs and toxic agricultural chemicals, he's also gone on record urging Western nations to switch to 100% synthetic lab-grown imitation beef, and has railed against legislative attempts to make sure fake meats are properly labeled, since that will slow down public acceptance.17

Not surprisingly, Gates is financially invested in most of his proposed "solutions" to the world's problems, be it hunger, disease, viral pandemics or climate change.18

It's these kinds of self-serving endeavors that have earned Gates the unofficial title of the most dangerous philanthropist in the world. As noted by AGRA Watch,19 Vandana Shiva, Ph.D., and others, Gates' philanthropy creates several new problems for each one he promises to solve, and can best be described as "philanthrocapitalism."

Again and again, Gates' globalist approach to farming has had devastating consequences for food and environmental sustainability in general and local food security in particular. It is profitable for Gates and his corporate allies, though, and furthers the technocratic plan to control the world by owning all the world's resources.

[The Great Reset] is a vision for transferring the world into a totalitarian and authoritarian surveillance state manipulated by technocrats to manage traumatized populations, to shift wealth upward, and serve the interests of elite billionaire oligarchs. ~ The Defender

The WEF, founded by technocrat figurehead Klaus Schwab, is just one of the global nongovernmental agencies that help promote Gates' destructive agricultural and fake food agenda.

The Great Reset of Life as We Know It

The Gates Foundation, through its funding of the WEF, also plays an important role in The Great Reset, which was officially unveiled during a WEF summit in May 2020. As reported by The Defender, the Great Reset:20

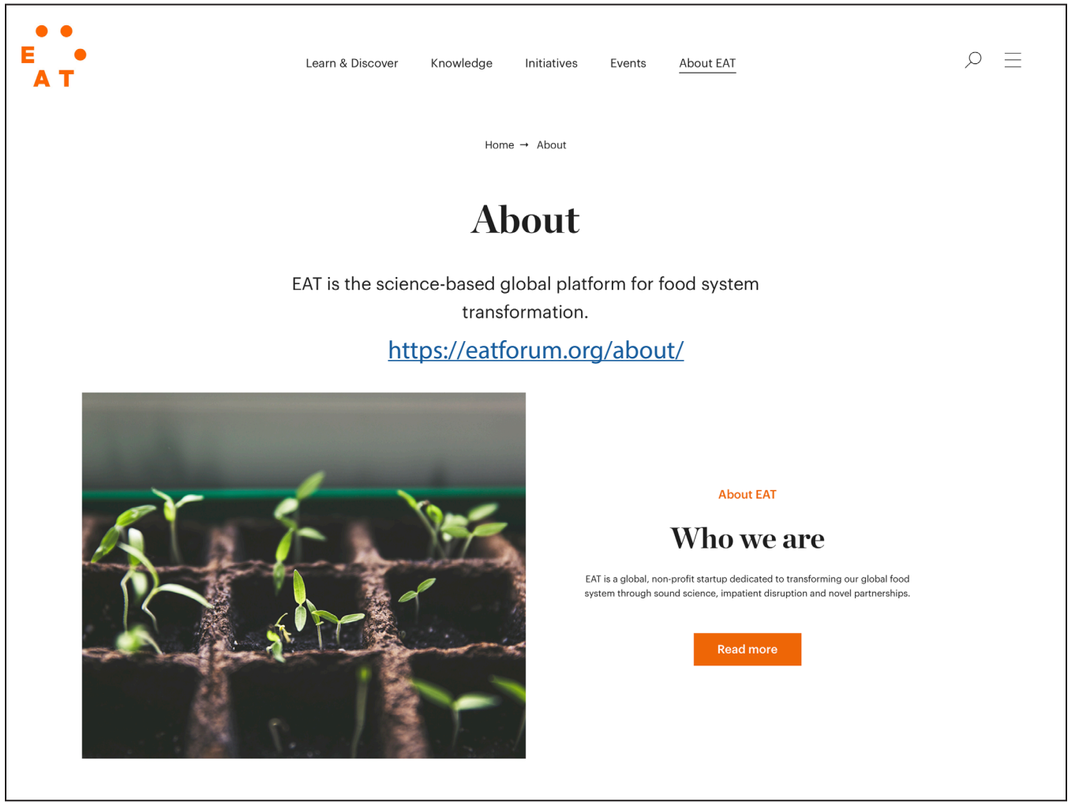
"... is a vision for transferring the world into a totalitarian and authoritarian surveillance state manipulated by technocrats to manage traumatized populations, to shift wealth upward, and serve the interests of elite billionaire oligarchs."

Every conceivable aspect of life and society is scheduled to be "reset" according to their plan — including global food policies. Leading that specific charge is an organization called the EAT Forum, co-

founded by the Wellcome Trust, which describes itself as the "Davos for food." The EAT Forum's largest initiative is called FReSH, which aims to transform the food system as a whole. Project partners in this venture include Bayer, Cargill, Syngenta, Unilever and Google. EAT also collaborates with nearly 40 city governments in Europe, Africa, Asia, North America, South America and Australia, and helps the Gates-funded United Nations Children's Fund (UNICEF) create updated dietary guidelines.

As you can see, no matter what network you're looking at, be it global health, finance, media, environmental policy or food, the Gates Foundation, WEF and Wellcome Trust are there, and tying it all together is The Great Reset plan, with its Fourth Industrial Revolution (another Schwab concoction), which is the transformation of humanity itself into internet-connected cyborgs. Ultimately, that's where this criminal COVID enterprise is trying to take us. To prevent that dystopian nightmare from becoming our lot, we need to see the hidden networks working behind the scenes.

We need to recognize that decisions are not made by chance. There's a plan, and decisions in seemingly disparate areas actually have the identical aim. You can't see that if you're thinking that people, organizations and even countries are working independently. They are in fact networked, which is what makes them so powerful. The thing that can interrupt or break that power is public insight into these networks, and understanding that the ultimate goal of all of them is to "reset" and "rebuild" civilization ("Build Back Better") into one of their own making. The public can stop this but only if they know about it and the vast majority, today, do not.



America Is Not Divided; It's Being Hijacked

We must break the propaganda spell and realize that we have the strength of numbers on our side

By Alexander Zubatov

February 19, 2022

It seems lately like everywhere, on both the Right and the Left, we are hearing a chorus of voices tell us America is hopelessly divided and on the brink of a second civil war.

The level of rancor and incivility characterizing much of our contemporary political dialogue appears to confirm as much on a daily basis. It appears Left and Right have arrived at irreconcilable worldviews, disagreeing on first principles, core convictions, specific policy choices and ultimate ends. Increasingly, they seem unable to see eye to eye even when it comes to pure matters of fact.

But what if the appearance of a great, insuperable divide is vastly overstated or even being deliberately amplified by forces that benefit from division? The gulf on certain significant matters is substantial, to be sure, and yet when we turn to look one by one at some of the most high-profile issues, we see that the split may be greatly overstated.

There is a great deal of talk about transsexual athletes, especially when men and boys seek a shortcut to the awards podium by competing against women and girls. The reality, however, is that a strong majority of Americans—62 percent—hold the commonsense view that athletes shouldn't get to compete in categories other than those corresponding to their birth genders, while only 34 percent have a different view.

The streaming of illegal immigrants across the U.S.-Mexico border has become the subject of apparently fierce debate, and yet, looking behind the headlines, a clear 71 percent of Americans believe it is unacceptable for people to enter this country illegally.

"Defunding the police" is a policy proposal that has been headline news ever since the BLM protests and riots of summer 2020. However, this one isn't even close: 84 percent of Americans oppose defunding, with 47 percent believing that funding for police should actually be increased. Only 15 percent favor less funding. This may be in no small part because, as another recent poll found, 77 percent of registered voters are "extremely" or "very" concerned about rising crime, including, for example, 74

percent of voters in traditionally liberal bastions such as New York City. President Lyndon Johnson's disastrous "Great Society" programs were expressly envisioned by Johnson as a method of reparations, i.e., to try to get historically disadvantaged black Americans to the same starting line enjoyed by some other Americans. Yet our current breed of "racism" and "white supremacy" fanatics keeps pushing for yet further reparations. Thankfully, however, most of us won't be fooled again: 62 percent of Americans oppose reparations, with 46 percent being definite in that view, while only 17 percent are strong proponents of the view that reparations should definitely be paid.

Amidst all the hubbub over critical race theory in our schools, clear majorities of Americans believe that schools should be teaching the truth about both slavery (78 percent) and racism (73 percent). But 86 percent of Americans also believe that schools are going beyond the facts and pushing a problematic political agenda, with 63 percent considering this a major problem; relatedly, 74 percent of Americans believe that race has become too much of a focus in our schools, with 49 percent deeming this a major problem as well.

If we listen to the media propagandists, Biden's commitment to nominating a black woman for the Supreme Court seat being vacated by the retiring Justice Stephen Breyer is an A-OK, even progressive, thing to do. More than three-quarters of Americans surveyed, however, know better: 76 percent believe Biden should be considering "all possible nominees" and not just a black woman, while only 23 percent want him to stay committed to his current plan.

While the most unapologetically vulgar identity politics have been normalized in America, it says something—indeed, it says a lot—when 57 percent of voters in California, arguably the most liberal state in the country, vote "no" when affirmative action is put to a plebiscite—this despite the 2020 proposition carrying the momentum of the radical racial frenzy unleashed by the death of George Floyd and despite the support of high-profile celebrities and politicians, with $31 million in donations to the cause, against only $1.6 million raised to defeat the proposition.

It is still more telling, in fact, that despite nearly 25 years of identity politics running amok in the interim, the 57 percent vote against affirmative action in 2020 actually marked a slight increase from the 54 percent who voted to end affirmative action in California when the issue was first put to the popular test in 1996.

Expanding the lens beyond deep blue California to the nation as a whole, the results are more damning still: 76 percent of us are done with affirmative action by race in university admissions, and an even higher 81 percent oppose gender-based admissions. Shocking as it may sound to some, most of us believe that scarce slots should be awarded based on merit rather than melanin or other inborn traits. Even when it comes to the question of policing speech, a solid majority of us (57 percent) believe

that "people today are too easily offended by what others say," while only 40 percent feel that "people should be careful what they say to avoid offending others."

For the same reason, moreover, that polls consistently failed to capture the true level of voters' support for President Trump in the 2016 and 2020 election cycles, I would be willing to bet that more than a few poll respondents are loath to reveal their true beliefs on questions of race and diversity, such that support for anti-identitarian consensus views is actually understated.

But if so many of these pressing matters which we have been conditioned to think of as hot-button issues spurring widespread dissent are, in reality, the subjects of widespread consensus, where is the disconnect? The answer is depressingly simple: massively overrepresented in media, academia, and among social influencers of every other sort, screeching "progressive" elites are driving our dialogue, sending us into a sharp left turn off the straight and narrow path.

Many of these people—whether bestselling celebrity academics such as Robin DiAngelo and Ibram X. Kendi, or journalists working for publications such as New York Times that knowingly monetize tall tales of "racism" and "white supremacy" to trigger the emotions of their liberal readers and drive ad sales—have a financial incentive to further racial and other identitarian hysteria.

Some of the high-profile individuals contributing to the divisive rhetoric on such issues may be sincerely committed to their causes, of course, but this does not make them any more representative of the nation as a whole. According to the comprehensive 2018 "Hidden Tribes" report from More in Common, an organization dedicated to fighting political polarization, just 8 percent of the country falls into the tribe the authors dub "Progressive Activists." Here is the report's summary paragraph describing these folks, their general views and proclivities and their disproportionate influence when it comes to matters of public concern:

Progressive Activists have strong ideological views, high levels of engagement with political issues, and the highest levels of education and socioeconomic status. Their own circumstances are secure. They feel safer than any group, which perhaps frees them to devote more attention to larger issues of social justice in their society. They have an outsized role in public debates, even though they comprise a small portion of the total population, about one in 12 Americans. They are highly sensitive to issues of fairness and equity in society, particularly regarding race, gender, and other minority group identities. Their emphasis on unjust power structures leads them to be very pessimistic about fairness in America. They are uncomfortable with nationalism and ambivalent about America's role in the world.

Consistent with the report's findings, it is no secret that politically engaged Democrats and liberals are massively overrepresented in media and academia, both of which are progressively becoming even more heavily skewed left with the passing years. In 1971, 26 percent of all journalists identified as Republicans, while 36 percent were Democrats; by 2014, Republicans were just 7 percent, with Democrats now outnumbering them four to one. The numbers are undoubtedly still more skewed today, in a time when journalists are, moreover, eager to let their biases show through and unwilling to uphold even the pretense of journalistic objectivity.

The numbers for academia today are just as stark: 44 percent of the American professoriate identifies as liberal, while just 9 percent identifies as conservative, but in the influential social sciences and humanities, those respective numbers are 58 percent versus 5 percent and 52 percent versus 4 percent, respectively. Not so long ago—in 1984—liberals comprised 39 percent of academics, and conservatives were 34 percent. That is a seismic shift.

Not to be forgotten is the large dollop of toxic bias being stirred into our collective cauldron by Big Tech's skewed search algorithms and increasingly heavy-handed speech censors; like these others important sectors of society, Big Tech has a pronounced leftward tilt, with only 1 percent of Amazon, Apple, Facebook, Google and Microsoft employee contributions to political campaigns going to Republican candidates for office (as of 2018). The largest recipient of Big Tech's political contributions that year (receiving $1 billion) was ActBlue, a fundraising platform for "progressive" candidates.

With this much sludge clogging up our political arteries, why should we be surprised that when it comes to the kinds of issues that matter to our ruling elites, it looks to us that we are far more divided than we actually are?

The good news is, we are catching on. One particular area of widespread consensus that the media is likely none-too-interested in disseminating is the general public's view of the media itself. While President Trump was widely demonized for calling the media "fake news" and the "enemy of the people," the people, it seems, actually agree with him. In a July 2021 Rasmussen poll, 58 percent of likely voters agreed that "the media is truly the enemy of the people." And in a still more recent Gallup poll from October 2021, the percentage of Americans who trusted the media was a meager 7 percent. Scandal-plagued CNN's 90 percent ratings free-fall over the course of the past year may be not a mere aberration but part of a broader trend in which people have begun to tune out all of these ratings-driven spreaders of sensationalized "breaking news," profit-driven racial hysteria, thinly veiled regime propaganda, polarizing political bias, and mass misinformation.

Universities are similarly attracting our ire. Though Republicans and Democrats may have some disagreement when it comes to the details of why universities are becoming problematic, regardless of whether the issue is exorbitant tuitions, overly politicized administrations, professors, and classrooms or the inadequate teaching of essential skills, 61 percent of us agree universities are headed in the wrong direction, and enrollment is on the downswing.

The reputation of Big Tech is, likewise, starting to take a hit in the public eye. As of approximately one year ago, 45 percent of Americans had a negative view of these firms, as compared to only 34 percent with a positive view, and 57 percent of us wanted more government regulation of these many-tentacled monstrosities. And that was largely before tech platforms began to play the part of government lackeys administering an escalating mass censorship campaign in which backroom technocrats take it upon themselves to stifle public debate and purport to resolve difficult questions of what is or is not good science while deplatforming leading credentialed virologists and elected politicians alike.

We must break the spell and realize that we have the strength of numbers on our side. Then, we need to overcome the collective action problem that afflicts all diffuse majorities and band together to fight a culture war to take back our institutions from the sinister forces that have co-opted them. Those of us fortunate enough to see here and now where it is we stand have a responsibility to illuminate the path, to spread our words of warning and our good word far and wide until the dark veil that has descended upon the land is lifted and a chorus of hosannas can again ring out from sea to shining sea.

The Covid-19 narrative is broken, that battle is over. Yes, there are still pockets of token resistance, little embattled squares who aren't ready to give up the ghost just yet, but for the most part the establishment are letting it go. Country after country after country are "relaxing" their Covid restrictions, abandoning vaccine passport plans and attempting to "get back to normal".

It seems every week some new "expert" who spent the last two years predicting we're all gonna die turns up on the news claiming we should "treat Covid like the flu".

But just because they're giving slack on Covid does not mean the agenda behind Covid is gone. Far from it. In fact, even as they seek to dump this pandemic in a shallow grave, they are already prepping the public for the next health scare – AIDs.

What's Behind the New AIDS Scare?

In December Joe Biden claimed it was the aim of his administration to "end the HIV/AIDS epidemic by 2030". A similar campaign, launched in the UK at the same, uses the same exact phrase, word for word.

Then, just last week it was suddenly reported there was a "new variant" of HIV circulating in Europe, this new strain is allegedly "more virulent","more transmissible", and "progresses to AIDS faster".

At the same time, papers are reporting that for the first time in years heterosexuals are more likely to contract HIV than homosexuals, and they are "more at risk of AIDS" because they're "diagnosed late".

On the back of this "news", a Guardian opinion piece claims we need a "new strategy" for dealing with AIDS. Following hot on the heels of this fresh wave of fear is a push for everyone to get AIDS tested as soon as possible, from politicians and celebrities and everyone in between. Prince Harry is leading the charge, in a video that caused the press invoke the spirit of his mother Princess Diana, Harry insisted we all have a "duty" to get HIV tested "to keep other people safe", comparing it to the COVID outbreak.

"Know your status", the video says. Which will probably be a hashtag in the near future. (I just checked, and it actually is already.)

They're really cranking through the gears on this one. Even while the problem and reaction are still barely out of the research and development stage, they're already talking about the solution. Guess what it is? If you said "another mRNA vaccine", well done for paying attention

Yes, Moderna has apparently learned so much from making their rushed Covid vaccine which doesn't work that they're already making an HIV vaccine they hope will be just as "safe and effective".

In a truly startling coincidence, Moderna's HIV vaccine began clinical trials the exact same day the "new variant" of HIV hit the headlines, and the same week as the NHS's annual "HIV Testing Week". Funny old world, isn't it?

Anyway, everyone get ready to line up for the AIDS shot. And the Influenza shot.

Oh, and the cancer one as well.

The Covid battle might be slowly winding down, but the mRNA "vaccine" war has potentially only just begun.

The Coming World War for US Dollar Supremacy? US-Backed NATO Expansion to Russia's Borders

By Timothy Alexander Guzman

Russian President Vladimir Putin has repeatedly warned the West that any action to push NATO forces close to its borders while Washington sends lethal weapons to Ukraine's military would leave Moscow with no choice but to retaliate.

Putin also mentioned that the Minsk agreements from 2014 and 2015 which was intended to end the conflict between Ukrainian forces and Russian-backed separatists in eastern Ukraine does not exist anymore. Russia has retaliated by recognizing Donetsk and Luhansk Peoples Republics in the Donbas region in eastern Ukraine as independent republics followed by sending in Russian peacekeepers to stop continued attacks on the civilian population in that region by Ukraine's neo-Nazi forces.

Donbass

The resistance in Donetsk and Luhansk have been fighting for independence against the fascist forces of Ukraine since 2014 which has killed thousands of people.

According to RT news, Kremlin spokesman Dmitry Peskov said that Russia wants to "neutralize the [Ukrainian] military potential, which was boosted considerably lately, including with the active assistance of foreign nations." Of course, those foreign nations are part of the NATO alliance backed by the US who is the main driver of aggression towards Russia. The US and its NATO lapdogs want to destabilize Russia because their hegemonic power is in decline.

So why are they targeting Russia?
The answer to that question is the US dollar.

In the last decade or so, Russia, China, Iran and others have been challenging the world's reserve currency status and that worries the US establishment.

The US uses its reserve currency status to control the world's economy and its politics in its favor, for example it uses economic sanctions as a tool against countries who don't do what Uncle Sam wants them to do.

On April 5th, 2021, Newsweek published an article 'Sanctions Are Destroying U.S. Dollar's Status as World's Top Currency' that basically admits that Washington's use of sanctions will eventually cripple the US dollar in the long-term, "the continual use of sanctions to pressure countries and companies perceived to be acting against U.S. interests may also be weakening the dollar's global position." The article quotes a member of the Council of Foreign Relation (CFR), Benn Steil who said, "It's certainly not an imminent threat to the dominance of the dollar, but it's by far the biggest one."

Western Sanctions on Russia, Russia-China Cooperation:
A Tectonic Shift of the Global Economy?

Today, the US dollar is still used in international trade deals, to purchase gold, oil, agricultural products and other commodities. However, that demand for the US dollar or what is called the greenback has allowed the US government to print trillions of unlimited dollars leading to $30 trillion in debt that will never be repaid to its creditors, one of them being China. This power has allowed the US to run wild without any repercussions until now. The world has had enough. Back on August 6th, 2018, former Iranian President Mahmoud Ahmadinejad tweeted

"The use of the US Dollar as the standard unit of currency in global markets and the world banking system is the key strength of the American Empire. Things need to change, current orders should be reordered. #Newworldorder #DollarDictatorship."

Then on September 21st, 2018 Newsweek published 'Russia and China Think U.S. Dollars Are Ruining the World, So They're Finding a New Way' revealed how major powers around the world view the US dollar: Russia and China lashed out at U.S.'s control over the global financial system after being hit by fresh sanctions that have left the two rising powers increasingly frustrated. Russian Foreign Minister Sergey Lavrov said Friday that his country was making extensive efforts to distance itself entirely from the U.S.-dominated international financial system, much of which runs on the U.S. dollar, and urged others to do the same

Lavrov's statement was probably a wake-up call for Washington, so in bi-partisan fashion, the political establishment from both sides of the aisle became more aggressive towards Russia. The Trump regime at the time kept the Magnitsky Act in place sanctioning high-ranking Russians, then added new sanctions on several influential Russians and some Chechens over claims of human rights abuses. Trump also approved sending lethal arms to Ukraine, but King Trump says war between Russia and Ukraine would have never happened under his watch because he was a strong leader and Biden is weak. However, US President Joe Biden and his regime is taking similar actions as his predecessor by imposing more sanctions on Russia since he was "elected" to office.

De-Dollarisation?

Whatever Washington decides. whether to cut Russia from the SWIFT system or impose more severe sanctions, it will impact the US dollar. Washington's actions will bolster further economic cooperation between Russia, China and the rest of the world as it will allow them to ditch the US dollar in its entirety and further expand their use of their own currencies that will include both the ruble and the Yuan for trade and investment purposes.

This would also reduce the dependency of the US dollar on the world stage

It is a sign that the US dollar is on its last leg and that's why the West will do whatever it can to destabilize Russia by supporting NATO and the neo-Nazi regime in Kyiv. Would it work? Not a chance. Russia will win this battle because as the world knows, they have advanced military capabilities and the support of the Russian people. Russia is stronger than ever before. One important fact to keep in mind is that the biggest loser in this conflict will be the US dollar along with its sphere of influence.

The Covid Cartel Lied, People Died. Now They Say It's All Your Fault

By Senator Ron Johnson & Dr. Robert Malone
FEBRUARY 24, 2022

Americans were manipulated and turned against each other to hide government mismanagement, while many died unnecessary deaths.

In July 2021, President Biden, members of his administration, and the rest of the Covid cartel – federal health agencies, Big Pharma, legacy media, and Big Tech – began blaming the unvaccinated for the prolonged pandemic and calling it a "pandemic of the unvaccinated."

On July 16, 2021, Salvador Rizzo, writing as the Washington Post's fact-checker, and therefore an esteemed member of the Covid cartel, awarded Johnson four Pinocchios for stating what was objectively true: the CDC's Vaccine Adverse Event Reporting System (VAERS) had already reported "over 5,200 deaths" on their "early warning system."

On August 3, 2021, Israel's Health Ministry reported smashing a five-month record of new cases, the vast majority in the fully vaccinated population. On Sept. 1, the New England Journal of Medicine published a letter reporting that Covid vaccine protection among 19,000 health care workers in San Diego went from 94-plus percent March through June to 66 percent in July. The timing of scapegoating the unvaccinated for the ongoing pandemic was no coincidence. For anyone paying attention and not blinded by the siren song of Fauci, it was becoming apparent that the vaccines were not as safe or effective as we all hoped and prayed they would be. Because the Covid cartel was so vested in vaccines as the only solution to the coronavirus, evidence that their strategy was failing required a response.

Covid Cartel Blamed the Unvaxxed to Distract from Their Own Lies

Unfortunately, they simply could not afford to respond honestly. They had put all their eggs in the vaccine basket, sabotaged early treatment, and now a new surge in Covid cases and deaths was on the horizon. The fall 2020 surge had peaked in January 2021, with the number of cases and deaths falling rapidly over the next 5 months. By June 2021, there had been approximately 120 million Covid infections in America, and strong evidence of the durability of natural immunity following Covid infection was growing. The percentage of fully vaccinated Americans was steadily increasing, and the logical expectation was that herd immunity was being achieved and the end of the pandemic should mercifully be in sight. But it wasn't, and the Covid cartel needed someone to blame: the unvaccinated. Because they had done everything they could to block early treatment, they had no therapeutics to offer the newly infected. Unlike Mexico, India's Uttar Pradesh, and many other "less developed" nations, they couldn't suddenly embrace the widely available, safe generic drugs they had spent the last year trashing and suppressing. The body count was simply too high for them to admit they were wrong about the life-saving potential of these drugs. So instead of fessing up to their tragic mismanagement, they allowed more people to needlessly die.

Second Opinions Are 'Misinfo' and 'Terrorism' Unless They're Biden's

In October 2021, President Biden said health-care workers who are vaccinated "cannot spread" Covid "to you." This was blatantly false. The CDC had already been forced to admit in August 2021 that "fully vaccinated people with delta variant breakthrough infections can spread the virus to others." Yet the narrative that vaccines would be a cure-all was used to justify the pointless vaccine mandates that have been so corrosive, divisive, and destructive to our society.

The American people were manipulated and turned against each other to hide government mismanagement, while many died unnecessary deaths due to suppression of early treatment options. Countless workers had to choose between losing their jobs or being coerced into accepting a medical treatment – Covid vaccination – they preferred to refuse. Businesses were disrupted, closed, and harmed, and the fabric of American society was deeply scarred.

Senator Ron Johnson

To add insult to injury, on Feb. 7, 2022, the National Terrorism Advisory System issued a bulletin summarizing a new terrorism threat to the U.S. homeland which included "false or misleading narratives and conspiracy theories, and other forms of mis- dis- and mal-information (MDM)." According to Biden's Department of Homeland Security, the justification for this statement includes "widespread online proliferation of false or misleading narratives regarding … COVID-19." So those with a second opinion on the pandemic are now suspected terrorists? This affront to the Constitution's first amendment cites no specific examples. Would President Biden's July 21, 2021 misinformation that "you're not going to get Covid if you have these vaccinations" be considered a terrorist threat? It most certainly is a false and misleading narrative. To this day, the Covid cartel continues to promote widespread fear, refuses to recognize natural immunity, and is pushing vaccines on children who have little risk of serious harm from Covid. A time of reflection and reckoning is coming, as the Canadian trucker strike proves. The Biden administration and the rest of the Covid cartel must stop dividing America and abusing its awesome powers. The path forward should be obvious. Respect the public by being honest and transparent with it. And stop infringing our God-given freedom and personal health autonomy.

U.S. Senator Ron Johnson, pictured above, is a Republican from Wisconsin. Dr. Robert W. Malone is a pioneer of mRNA technology, is named on multiple patents, and authored groundbreaking research on how RNA could be delivered into cells.

This Machine Is
QR CODE
CERTIFIED
WARNING
Our records indicate that you've spent money on unauthorized services or activities.
Your account has been suspended for 14 days beginning today
CARD
CASH
JEFF PRAGER
CANCEL
CLEAR

It's Not About A Virus
It's Not About A Vaccine
IT'S ABOUT THE QR CODE

A QR Verification Code is now being developed to be applied Worldwide simultaneously in 194 member states of the UN with a combined population of 7.9 billion people.

The Worldwide QR Global Verification Agenda is to be carried out under the auspices of the WHO is liaison with ID2020 and the Gavi Alliance, both of which are funded by the Gates Foundation.
Peter Koenig describes the QR Code as "an all-electronic ID – linking everything to everything of each individual (records of health, banking, personal and private, etc.)."

The QR Verification App potentially sets the stage for the instatement of "a global police state" controlled by the financial establishment. It's part of what the late David Rockefeller entitled "the march towards World Government":

"…The world is now more sophisticated and prepared to march towards a world government. The supranational sovereignty of an intellectual elite and world bankers is surely preferable to the national auto-determination practiced in past centuries." (quoted by Aspen Times, August 15, 2011, emphasis added)

The QR Code consists in scrapping civil liberties and fundamental human rights.

The QR Code and the Worldwide Digital Currency System (CBDC)

Consultations are also ongoing with the World Economic Forum and central banks with a view to implementing a so-called Central Bank Digital Currency (CBDC) network. According to David Scripac:

"A worldwide digital ID system is in the making. … the aim of the WEF—and of all the central banks [is] to implement a global system in which everyone's personal data will be incorporated into the Central Bank Digital Currency (CBDC) network.

Once that goal is accomplished, every aspect of our lives will be controlled, from womb to crematorium, by the so-called 1% who run the world's most influential institutions and comprise its bluest bloodlines.

(Yes, bloodlines. As in the Rockefellers, Morgans, du Ponts, Rothschilds, British royals, and Dutch royals, to name a few of the supposedly superior families whose wealth and power have been dominating the global population for centuries.)

What do I mean by "every aspect of our lives"? For starters, what we can purchase with our CBDC money. And from there . . . whom we may—or may not—associate with. How much electricity we can use in our (rental) dwellings. What we are allowed to read, see, hear, say—and even eat.
Whether and where we can travel. The list of "forbiddens" will keep growing. And so will the social demerits we pile up for bad behavior. That is, for disobeying our slave masters.

"Digitization of the World": The Global Features of the QR Verification App

The WHO has signed a major contract with Deutsche Telekom T Systems to develop a QR Verification App and Software which is to be applied Worldwide. So far we have scanty details regarding the project which indelibly derogates on the rights of sovereign countries. Has WHO Director General Dr. Tedros sought the approval of the WHO's 194 member states? With the exception of Reuters (see below) there has been no media coverage or analysis, nor has the WHO made a formal announcement of the project:

The World Health Organization has signed a contract with Deutsche Telekom (DTEGn.DE) subsidiary T-Systems to build a software solution for global electronic verification of coronavirus vaccination certificates, the telecoms company said. The QR code-based software solution will be used for other vaccinations as well, such as polio or yellow fever, T-Systems said in a statement … adding that the WHO would support its 194 member states in building national and regional verification technology.

T-Systems previously worked with SAP (SAPG.DE) to develop Germany's Corona-Warn-App tracing and verification app and a Europe-wide digital COVID-19 vaccine verification system." (Reuters) According to a Deutsche Telekom I-T Systems Communique "The WHO's gateway service also serves as a bridge between regional systems", which essentially implies a coordinated global structure of QR surveillance, which oversees the entire World population. And once established: it will police "every aspect of our lives", wherever our location on Planet location.
"It can also be used as part of future vaccination campaigns and home-based records."
According to the CEO of Deutsche Telecom T Systems

"Corona has a grip on the world. Digitization keeps the world running"

Who has the Grip on the World?
A giant data bank pertaining to 7.9 billion people controlled by Big Money

"Keep the World Running" on Whose Behalf?

While Bill Gates funds both the WHO and ID2020, he also has a vested interest in Deutsche Telekom. In the late 1990s, Gates entered into negotiations on behalf of Microsoft with Deutsche Telecom's CEO Ron Sommer. The objective was to establish a longstanding "Strategic Partnership" between the two companies.

Confronting the Architects of Digital Tyranny

People Worldwide in a broad movement of solidarity must confront the architects of this infamous project of Digital Tyranny. We will seek all avenues through peaceful means to disable and undermine this totalitarian project including dialogue with and within public and private institutions, law enforcement officials, members of the military and the judicial.

What is required is to break down the structures of corruption, hierarchy and abusive authority, namely to pursue what might be described as: "the democratization of decision-making within our institutions".

IT WAS ALWAYS ABOUT THE
QR
CODE

Just before I was about to publish this eBook Dr. Peter McCullough posted these peer reviewed reports. It does not look good for those that have been vaccinated. Not good at all...

Review

Concerning the Possibilities for Human Genome Integration of SARS-CoV-2 RNA with mRNA Vaccination

Anthony M. Kyriakopoulos[1], Peter A. McCullough[2] and Stephanie Seneff[3*]

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Abstract: The recent findings of a sequence embedded in Human DNA that was almost identical to a sequence in the SARS-CoV-2 genome, and the identification of plausible integration of SARS-CoV-2 RNA into human DNA by endogenous reverse transcriptase activity expressed by Long Interspersed Nuclear Element (LINE)-1 (17% of Human DNA) and/or by polymerase theta, raise concerns about the safety of molecular vaccination. In this short review, the potential role of mobile genetic elements in the etiopathogenesis of neurological disease and the possibilities of human DNA interference by SARS-CoV-2 vaccination are identified and unraveled.

Keywords: SARS-CoV-2 spike protein; reverse transcription; mRNA vaccines; Human DNA integration; Human stem cells; mechanisms of human DNA interference; etiopathogenesis of disease.

current issues in molecular biology

MDPI

Article

Intracellular Reverse Transcription of Pfizer BioNTech COVID-19 mRNA Vaccine BNT162b2 In Vitro in Human Liver Cell Line

Markus Aldén [1], Francisko Olofsson Falla [1], Daowei Yang [1], Mohammad Barghouth [1], Cheng Luan [1], Magnus Rasmussen [2] and Yang De Marinis [1,*]

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Abstract: Preclinical studies of COVID-19 mRNA vaccine BNT162b2, developed by Pfizer and BioNTech, showed reversible hepatic effects in animals that received the BNT162b2 injection. Furthermore, a recent study showed that SARS-CoV-2 RNA can be reverse-transcribed and integrated into the genome of human cells. In this study, we investigated the effect of BNT162b2 on the human liver cell line Huh7 in vitro. Huh7 cells were exposed to BNT162b2, and quantitative PCR was performed on RNA extracted from the cells. We detected high levels of BNT162b2 in Huh7 cells and changes in gene expression of long interspersed nuclear element-1 (LINE-1), which is an endogenous reverse transcriptase. Immunohistochemistry using antibody binding to LINE-1 open reading frame-1 RNA-binding protein (ORFp1) on Huh7 cells treated with BNT162b2 indicated increased nucleus distribution of LINE-1. PCR on genomic DNA of Huh7 cells exposed to BNT162b2 amplified the DNA sequence unique to BNT162b2. Our results indicate a fast up-take of BNT162b2 into human liver cell line Huh7, leading to changes in LINE-1 expression and distribution. We also show that BNT162b2 mRNA is reverse transcribed intracellularly into DNA in as fast as 6 h upon BNT162b2 exposure.

Keywords: COVID-19 mRNA vaccine; BNT162b2; liver; reverse transcription; LINE-1; Huh7

check for updates

Citation: Aldén, M.; Olofsson Falla, F.; Yang, D.; Barghouth, M.; Luan, C.; Rasmussen, M.; De Marinis, Y. Intracellular Reverse Transcription of Pfizer BioNTech COVID-19 mRNA Vaccine BNT162b2 In Vitro in Human Liver Cell Line. *Curr. Issues Mol. Biol.* **2022**, *44*, 1115–1126. https://doi.org/10.3390/cimb44030073

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Aluminum and Glyphosate Can Synergistically Induce Pineal Gland Pathology: Connection to Gut Dysbiosis and Neurological Disease

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https://www.scirp.org/pdf/AS_2015011220442124.pdf

Propaganda, Corporatism, and the Hidden Global Coup: Le Bon and Goebbels teach us about Modern State and NGO-Sponsored Propaganda during COVID

Robert W Malone MD, MS
March 1st, 2022

Knowledge of the theory and practical implementation of mass formation psychology can and is being used by propagandists, governments and the World Economic Forum to sway large groups of people to act for the benefit of the propagandists' objectives. Although a major crisis of some sort can be extremely useful for propagandists to take advantage of (war, hyperinflation or public health for example), these psychological theories can and often are applied even without strong evidence of a compelling crisis. For this to be effective, the leader just has to be sufficiently compelling.

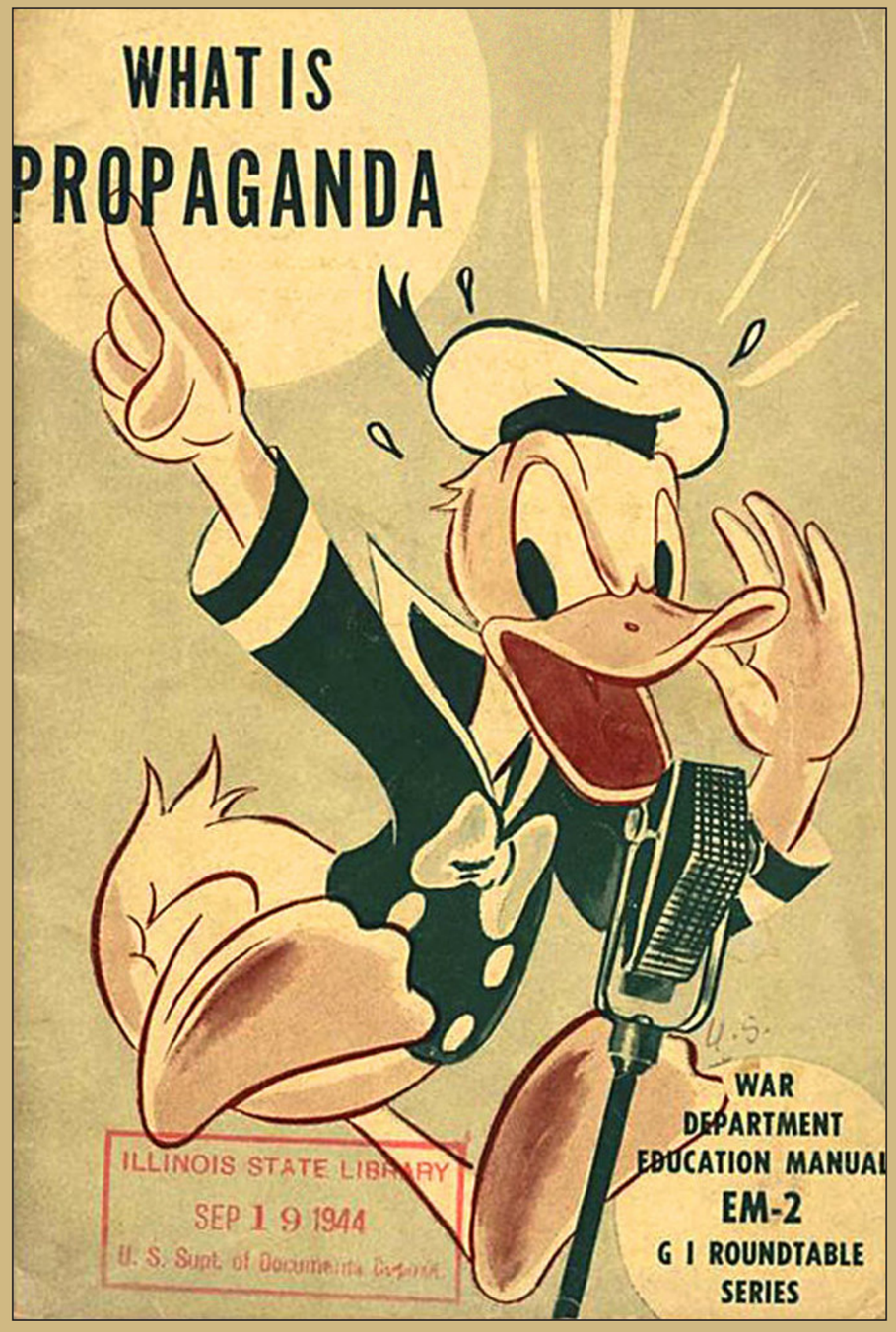
One current example involves the almost global acceptance of mask use by the general population over the past two years. Because Fauci and his acolytes at the CDC insisted that masks work, public acceptance of a very intrusive element into people's lives was almost universal.

Data demonstrating lack of effectiveness of masks for preventing spread of the SARS-CoV-2 virus are largely irrelevant and either rejected or unable for its existence to be acknowledged by those who have become hypnotized by the mass formation process. Even the logic of masking children was accepted without question despite the clear and compelling evidence of harm.

Paul Joseph Goebbels was the chief German propagandist for the Nazi Party, and then was promoted to the Reich Minister of Propaganda from 1933 to 1945. He was truly a master and arguably the creator of the concept that the State can control people by introducing propaganda into the news to enable the State-based control of entire populations. Goebbels' wicked brilliance was to exploit racism as a tool to promote German nationalism to the point of mobilizing and motivating Germany to engage in a globalized war for political, military and economic dominance. His writings and speeches on propaganda have been studied by leaders and governments ever since, much as the writings of Niccolò Machiavelli continue to be a cornerstone of modern interstate realpolitik. Examples of Goebbels' insights include the following:

"There was no point in seeking to convert the intellectuals. For intellectuals would never be converted and would anyway always yield to the stronger, and this will always be "the man in the street." Arguments must therefore be crude, clear and forcible, and appeal to emotions and instincts, not the intellect. Truth was unimportant and entirely subordinate to tactics and psychology."

"If you tell a lie big enough and keep repeating it, people will eventually come to believe it. The lie can be maintained only for such time as the state can shield the people from the political, economic,



and/or military consequences of the lie. It thus becomes vitally important for The State to use all of its powers to repress dissent, for the truth is the mortal enemy of the lie, and thus by extension, the truth is the greatest enemy of The State."

Goebbels applied the theories behind what is now described by Dr. Mattias Desmet as mass formation psychosis to practical politics within a nation-state. Academic writings concerning the formation of a "mass" or a crowd, otherwise known as mass formation, was an accepted discipline during the time when Goebbels was developing his insights, with many scholars including Gustave Le Bon (1841-1931), Freud, McDougal, and Canetti being leading intellectual contributors to his thinking.

Le Bon, a French social psychologist, is often seen as the founder of the study of crowd (group) psychology. Le Bon defined a crowd as a group of individuals united by a common idea, belief, or ideology, and he believed when an individual becomes part of a crowd, he/she undergoes a profound psychological transformation. The individual ceases to think independently and instead relies on the group synthesis of a set of simplified ideas.

According to this theory, crowd formation requires a set of simplified ideas that the group incorporates, at which point an individual who has become integrated into the group ceases to psychologically exist as an independent mind and functionally becomes hypnotized.

Le Bon maintained that a group typically forms around an influential idea that unites a number of individuals, and this idea then propels the group (or mass) to act towards a common goal. However, he also concluded that these influential ideas are never created by members of the crowd. Instead, they are most often given to the crowd by a leader or set of leaders. According to Le Bon, in order for an idea to unite and influence a crowd, it must first be dumbed down to the level that the entire crowd can understand it. It must be easily understood by all within the crowd.

Just to provide a current example, a scientific discipline could develop a new type of vaccine as a solution to a public health crisis. That complex research and resulting technology may have required decades of effort. On average, the crowd as a whole would be incapable of comprehending such complex theories or technologies, so socially engineering acceptance of the vaccine (by a crowd or mass) would require this new concept for vaccination to be thoroughly simplified before the idea could become the focus of a hypnotic, single minded belief in the solution (the new type of vaccine).

Le Bon proposed that this is where group leaders come in. Under the Le Bon model, the leader of a crowd (for example, someone like Fauci) will enable this process by distilling these complicated concepts (or technologies) down to a small set of simplified ideas that the crowd can accept, incorporate and act upon as their own. One of the most important elements of this is the requirement for a "trusted leader" to be accepted by the crowd. Once a crowd truly accepts a leader, it is almost impossible for them to reject that leader, whether or not the lies that he or she may tell are actually done with "noble" intent or purpose.

Over the last two years, we have seen clear evidence that both our government as well as those of Great Britain and many other western democracies have learned and actively apply the lessons of Gustave Le Bon and Joseph Goebbels quite well.

Going back in time, in a book titled Propaganda and Persuasion, historians Jowett & O'Donnell wrote

about Hitler's basic principles of propaganda, which were based upon Goebbels work and advice. They are:

Hitler's Basic Principles (abstracted from Jowett & O'Donnell (Propaganda and Persuasion))

Avoid abstract ideas - appeal to the emotions.
Constantly repeat just a few ideas. Use stereotyped phrases.
Give only one side of the argument.
Continuously criticize your opponents.
Pick out one special "enemy" for special vilification.

In looking back over the last two years, it is clear that each of these core principles have been deployed against us, and in particular have been deployed against "anti vaxxer" physicians, scientists and lawyers who have been speaking out against the totalitarian practices of western governments, CDC and WHO-approved narratives (which we now know were actually yet more propaganda), discussing early treatment, or trying to examine or explore the data concerning vaccine adverse events or the logic of universal vaccination. So was my citing Nazi Germany as an example of "Mass Formation Psychosis" during the Joe Rogan Experience podcast #1757 inappropriate? Seems to me it was absolutely appropriate. I was actually being quite conservative by not going further with that example.

Unfortunately, both national and world governmental organizations have learned more than just the lessons of mass psychosis and propaganda. World governments and large financial interests have now united to produce harmonized propaganda through a wide variety of media outlets, such as big tech, social media, and main stream media. We have entered a new era of total thought control exerted on a global scale, which is often referred to as psychological operations or psy-ops.

Before proceeding further, it is important to provide examples to illustrate what going on in the modern psy-ops operations led by governments, non-governmental organizations, global forums such as the United Nations and World Health Organization, and the World Economic Forum. Helpful examples include the following:

Operation Mockingbird: Operation Mockingbird was organized by Allen Dulles and Cord Meyer in 1950. The CIA spent about of one billion dollars a year in today's dollars, hiring journalists from Corporate Media including CBS, The New York Times, ABC, NBC, Newsweek, Associated Press and others, to promote their point of view. The original operation reportedly involved some 3,000 CIA operatives and hired over 400 journalists. In 1976, the domestic operation supposedly closed, but less than half of the media operatives were let go. Furthermore, documentary evidence shows that much of the Operation Mockingbird was off-shored at that time. It is rumored that British Intelligence picked up many of the duties of operation mockingbird on behalf of the US intelligence community (see the Trusted News Initiative).

The Trusted News Initiative (TNI): Is a British Broadcasting Corporation (BBC) led organization which has been actively censoring eminent doctors, academics, and those with dissenting voices that contravene the official COVID -19 narrative. Anything contrary to this narrative is considered disinformation or misinformation and will be deleted, suppressed or de-platformed. Misinformation and disinformation are considered anything not aligned with the World Health Organization and/or the regional Public Health Authority-approved "truth". In the case of the USA – that "truth" is established by Anthony Fauci, the CDC and the FDA. The TNI uses advocacy journalism and journals to promote their causes. The Trusted News Initiative is more than this though; if you go back to Hitler's basic principles, the members of the TNI are using these core principles to control the public. The known TNI partners include: Associated Press, AFP; BBC, CBC/Radio-Canada, European Broadcasting Union (EBU), Facebook (whose founders fund article being written for the The Atlantic), Financial Times, First Draft, Google, The Hindu, Microsoft, New York Times, Reuters, Reuters Institute for the Study of Journalism, Twitter, You Tube, The Wall Street Journal, The Washington Post.

World Economic Forum: The World Economic Forum (WEF) is one of the key think-tanks and meeting places for the management of global capitalism, and is arguably coherent enough to qualify as the leading global "deep state" organization. Under the leadership of professor Klaus Schwab, it has played an increasingly important role in coordinating the globalized hegemony of large pools of transnational capital and associated large corporations over western democracies during the last three decades. Many of its members are active in using COVID-19 to carry out a "Great Reset" (as described in the writings of Klaus Schwab) to dispossess and implement digital tracking and control of people as a step towards what many believe will institute a techno-feudalism as well as the WEF objective of a fourth industrial revolution incorporating technologies collectively referred to as "transhumanism". Genetic mRNA vaccines have been identified by both western governments as well as the WEF as a first step towards an inevitable "transhumanism" agenda.

Social Credit systems: China's social credit system is a combination of government and business surveillance that gives citizens a "score" that can restrict the ability of individuals or corporations to function in the modern world by limiting purchases, acquiring property or taking loans based on past behaviors. Of course, how one uses the internet directly impacts the social credit score. This is the origin of the social credit system that appears to be evolving in the United States. Environmental, social, and governance (ESG) metrics are a kind of social credit system designed to coerce businesses—and, by extension, individuals and all of society—to transform their practices, behaviors and thinking. Many government leaders in USA who have been trained by the WEF Young Leaders or Influencers programs are pushing this scoring system and actively promoting the idea in the USA. Already, financial institutions such as Paypal and GoFundMe, as well as some more mainstream banking systems, are actively deciding who can use their services based on a social credit scoring system (Haskins, 2022).

WEF Young Leaders Program: is a five-year World Economic Forum training program that hand-picks individuals most likely to succeed in politics, corporate governance and as key influential royalty. The WEF helps connect these graduates with leaders and capital to ensure that they rise in the ranks of national or world politics and/or corporate governance. The training program agenda is kept secret, and it is very rare that a graduate will discuss the program publicly. However, the benefits of global corporatism, combined with social engineering are main components of the program. The Young Leaders program started in 1992 (under a different name) and has graduated close to 4,000 people. They include a "who's who" of leaders and influencers in politics, big tech, media, the pharmaceutical industry, and finance.

A small subset of the graduates from the Young Leaders Program in the United States include:

Jeffrey Zients (White House Coronavirus Response Coordinator since 2021),
Jeremy Howard (co-founder of lobby group "masks for all"),
California Governor Gavin Newsom,
Peter Buttigieg (candidate for US President in 2020, US secretary of transportation since 2021),
Chelsea Clinton,
Huma Abedin (Hillary Clinton aide),
Nikki Haley (US ambassador to the UN, 2017-2018),
Samantha Power (US ambassador to the UN, 2013-2017, USAID Administrator, since 2021),
Ian Bremmer (founder of Eurasia Group), Bill Browder (US-British financier),
Jonathan Soros (son of George Soros),
Kenneth Roth (director of Human Rights Watch),
Paul Krugman (economist),
Lawrence Summers (US Secretary of the Treasury, 1999-2001),
Black Lives Matter co-founder Alicia Garza,
Ivanka Trump,
and Tulsi Gabbard.

Legacy Media: CNN medical analyst Leana Wen, CNN Sanjay Gupta, Covid Twitter personality Eric Feigl-Ding, Andrew Ross Sorkin (New York Times financial columnist), Thomas Friedman (New York Times columnist), George Stephanopoulos (ABC News), Lachlan Murdoch (CEO of Fox Corporation, co-chair of News Corp), Justin Fox (Bloomburg), Anderson Cooper (CNN).

Technology and Social-Media: Microsoft founder Bill Gates, former Microsoft CEO Steven Ballmer, Jeff Bezos. Google co-founders Sergey Brin and Larry Page, Elon Musk, former Google CEO Eric Schmidt, Wikipedia co-founder Jimmy Wales, PayPal co-founder Peter Thiel, eBay co-founder Pierre Omidyar, Facebook founder and CEO Mark Zuckerberg, Facebook COO Sheryl Sandberg, Moderna CEO Stéphane Bancel, Pfizer CEO Albert Bourla (a WEF Agenda Contributor), and Pfizer VP Vasudha Vats.

Note: The agenda of the WEF, the WEF Young Leaders graduates and WEF affiliates must be made public. When the reader encounters people on this list, please remember that they have been trained by the WEF. The alliance of these graduates is not to the USA, but rather to corporatist globalism and the WEF agenda.

The Great Reset: Economist Peter Koenig is a geopolitical analyst and a former Senior Economist at the World Bank and the World Health Organization (WHO), where he has worked for over 30 years on water and environment around the world. He lectures at universities in the US, Europe and South America. He describes a plan, commonly known as "The Great Reset", which the Rockefellers, the Gates, the WEF and the Rothschilds are implementing as the domination of a small minority of corporate globalists over the majority of the population. They are using the cover of anti-COVID measures and an overstated public health crisis to push through these measures.

Koenig claims to have coined the term in October 2020 as shorthand to represent a plan designed as the "the antidote to 'democracy'. The Great Reset would be the total corporate takeover of all aspects of life. As defined by Koenig, the Great Reset involves using the global technocratic biosecurity state (otherwise known as the global public health system) to implement these changes. The end results will mean extensive restrictions on the physical environment around people, a forced digitization, and a loss of bodily autonomy (having a say in your own health decisions).

On face value, "The Great Reset" is also the title used for the 50th annual meeting of the World Economic Forum, which was held during June 2020. The event brought together high-profile business and political leaders, and was convened by Charles, Prince of Wales and the WEF, with the theme of rebuilding society and the economy following the COVID-19 pandemic. The above description is what one finds on your basic search engine and again, but the motives are less than pure. A less flattering definition of The Great Reset would be Capitalism with Chinese characteristics: A two-tiered economy, with profitable monopolies and the state on top and socialism for the majority below.

With these basic terms in our toolbox, let's return to the central topic. In the coordinated propaganda and censorship response to the COVID-19 public health crisis, globalists and corporatists are directly incorporating Hitler's own principles for crowd control. If we look closer, we can clearly see coordinated actions by the BBC-led Trusted News Initiative, various Scientific Technological Elite, large financial groups (such as Vanguard, BlackRock and State Street), and the World Economic Forum acting in real time to suppress a growing awareness by the general public of having been actively manipulated. It is increasingly becoming clear that these organizations and aligned nation-states have been using crowd psychology tools to generate significant fear and anxiety of COVID-19 to advance their agendas on a global scale. They have used COVID to drive a planned and coordinated agenda, the Great Reset.

Multiple governments have now admitted to actively using fear and 'Mass Formation'-related theories as a tool for totalitarian population control during this outbreak. These are basically psychological operations aimed at populations of nations. One glaring example has been operating in the UK:

"Scientists on a committee that encouraged the use of fear to control people's behavior during the Covid pandemic have admitted its work was "unethical" and "totalitarian".

SPI-B warned in March last year that ministers needed to increase "the perceived level of personal threat" from Covid-19 because "a substantial number of people still do not feel sufficiently personally threatened".

Gavin Morgan, a psychologist on the team, said: "Clearly, using fear as a means of control is not ethical. Using fear smacks of totalitarianism. It's not an ethical stance for any modern government. By nature I am an optimistic person, but all this has given me a more pessimistic view of people."

(Published in The Telegraph "Use of fear to control behavior in Covid crisis was 'totalitarian', admit scientists Members of Scientific Pandemic Influenza Group on Behavior express regret about 'unethical' methods" by Gordon Raynor, Associate Editor, May 14, 2021)

Of course all of this has been occurring at the same time that Omicron is destroying the legitimacy of government and WHO propaganda concerning the "Safe and Effective" mRNA vaccines and associated mandates. In fact, the various "factchecker" and "advocacy journalists" seem to have doubled down on this form of "digital hate".

So where do we go from here? Many suspect that Joe Biden will use the state of the union address to move towards normalization and pivot to another major propaganda effort focused on Russia and the Ukraine. Saturday Night Live is now making light of the impact of the effects of the "behavior control" that we have all been subjected to, which I suppose is another sign that this is finally winding down. But the damage done has been profound. Lives unnecessarily lost, businesses decimated, careers destroyed, and I do not even know where to begin with our entire healthcare system and associated federal health and human services bureaucracy. Long ago when I had twitter and Linked In accounts, before being deplatformed for posting the Canadian COVID Care Alliance video documenting the Pfizer clinical research malfeasance I warned of the potential public health consequences of data revealing that Ivermectin was safe and had some effectiveness against COVID, that the "lab leak hypothesis" had merit, and that the genetic vaccines were not completely safe and effective. Instead of coming clean, the propagandists doubled down. And now we have not only profoundly damaged the vaccine mission and public health in general, but we have destroyed public trust in Physicians, academic medicine, and the entire hospital system. That damage is going to take decades to rebuild, and I hardly know where to start or how to think through what steps will be required. While composing this, I have also been corresponding with a colleague who is also a lawyer and a mother. I think her last text provides an excellent summary of my position. There must be accountability.

Well, we are not going to let them "just move on" - they will pay for what they did. We will legally challenge everything they did to prevent it from happening again and then we will reform education so that our children know how to recognize the signs of tyranny in the future.

Roger that!

Some Of The Many

Patents By Dr. Malone

Robert W. Malone has filed for patents to protect the following inventions. This listing includes patent applications that are pending as well as patents that have already been granted by the United States Patent and Trademark Office (USPTO).

Compounds and methods for enhancing delivery of free polynucleotide

Publication number: 20040009947
Abstract: The discovery of simple, nontoxic, and pharmaceutically defined methods for genetic modification of cells and tissues would enable development of a variety of molecular medicines. "Free", 'direct', or 'naked' polynucleotide administration is a simple, apparently safe, and pharmaceutically defined polynucleotide delivery method. Murine, macaque, and clinical human experiments have demonstrated transfection of various tissues, such as respiratory tissues, after direct application of 'free' polynucleotide. However, direct DNA transfection is relatively inefficient in comparison to many transduction systems. The invention herein is directed to transfection enhancing agents which augment the transfection activity of 'free' polynucleotide, thereby facilitating the development of simple and safe alternatives to tissue transfection, more particularly respiratory tissue transfection.
Type: Application
Filed: May 27, 2003
Publication date: January 15, 2004
Inventors: Robert W. Malone, Jill G. Malone

DNA vaccines for eliciting a mucosal immune response

Patent number: 6110898
Abstract: The invention consists of a method for inducing production of a mucosal immune response in a host by administration of an antigen-encoding polynucleotide preparation, comprising DNA or RNA encoding an antigenic epitope to a mucosal inductor site in the mucosal tissue of the host. Naked DNA may be administered directly to mucosa, for instance in saline drops, or in a recombinant gene expression vector. Preferably, the recombinant gene expression vectors are not capable of replication or dessimination. The invention also includes the use of live viral vaccines wherein the viruses include immunostimulatory polynucleotides of the invention. According to a preferred method of the invention, a target protein antigen is administered through its expression by a recombinant gene expression vector.
Type: Grant
Filed: May 23, 1997
Date of Patent: August 29, 2000
Assignee: University of Maryland, Baltimore
Inventors: Robert W. Malone, Jill G. Malone

Formulations and methods for generating active cytofectin: polynucleotide transfection complexes

Patent number: 5925623
Abstract: In the generation of cytofectin:polynucleotide complexes for transfection of cells, formulations, counterions, and reaction conditions for maximizing the transfection include using a cationic amine compound that has the general structure: ##STR1## wherein R.sub.4 and R.sub.5 are a pair of same or different lipoyl moieties selected from a group consisting of an alkyl, alkenyl, alkynyl, alkanoyl, alkenoyl, or alkynoyl groups and for R.sub.1, R.sub.2, and R.sub.3 at least two are hydroxylated, ether containing, or acyloxy containing alkyl, alkenyl, or alkynyl groups or at least one amine bonded halogen containing moiety selected from a group consisting of a halogenated alkyl, alkenyl, or alkynyl group or a mixture of at least one halogen containing moiety selected from a group consisting of a halogenated alkyl, alkenyl, or alkynyl group and at least one hydroxylated, ether containing, or acyloxy containing alkyl, alkenyl, or alkynyl group, and X.sup.- is an oxyanion or halide counterion.
Type: Grant
Filed: July 15, 1996
Date of Patent: July 20, 1999
Assignee: The Regents of the University of California
Inventors: Michael H. Nantz, Michael J. Bennett, Rajiv P. Balasubramaniam, Alfred M. Aberle, Robert W. Malone

Cationic transport reagents

Patent number: 5892071
Abstract: For use in transporting biologically active species into and through membrane barriers, a symmetrical cationic diamine compound having the general structure ##STR1## wherein m=1-10; R.sub.1 is a hydrogen, an alkyl group, an alkenyl group, a hydroxylated alkyl or alkenyl group, or an ether containing alkyl or alkenyl group; R.sub.2 is an alkyl group, an alkenyl group, or an alkyl or alkenyl containing acyl group; R.sub.3 is a hydrogen, an alkyl group, an alkenyl group, a hydroxylated alkyl or alkenyl group, or an ether containing alkyl or alkenyl group; R.sub.4 is a hydrogen, an alkyl group, an alkenyl group, a hydroxylated alkyl or alkenyl group, or an ether containing alkyl or alkenyl group; and X.sup.- is an anion.
Type: Grant
Filed: September 15, 1995
Date of Patent: April 6, 1999
Assignee: The Reagents of The University of California
Inventors: Michael H. Nantz, Michael J. Bennett, Robert W. Malone

Polyfunctional cationic cytofectins, formulations and methods for generating active cytofectin: polynucleotide transfection complexes

Patent number: 5824812
Abstract: Amine containing compounds and their use in the generation of cytofectin:polynucleotide complexes for transfection of cells, formulations, counterions, and reaction conditions for maximizing the transfection include using cationic amine compounds that have the general structure: ##STR1## wherein R.sub.4 and R.sub.5 are a pair of same or different lipoyl moieties selected from a group consisting of an alkyl, alkenyl, alkynyl, alkanoyl, alkenoyl, or alkynoyl groups and for R.sub.1, R.sub.2, and R.sub.3 at least two are hydroxylated, ether containing, or acyloxy containing alkyl, alkenyl, or alkynyl groups or at least one amine bonded halogen containing moiety selected from a group consisting of a halogenated alkyl, alkenyl, or alkynyl group or a mixture of at least one halogen containing moiety selected from a group consisting of a halogenated alkyl, alkenyl, or alkynyl group and at least one

hydroxylated, ether containing, or acyloxy containing alkyl, alkenyl, or alkynyl group, and X.sup.
Type: Grant
Filed: September 17, 1996
Date of Patent: October 20, 1998
Assignee: The Regents of the University of California
Inventors: Michael H. Nantz, Michael J. Bennett, Rajiv P. Balasubramaniam, Alfred M. Aberle, Robert W. Malone

Cationic transport reagents

Patent number: 5744625
Abstract: For use transporting biologically active species into and through membrane barriers, a symmetrical cationic diamine compound having the general structure ##STR1##
Type: Grant
Filed: May 16, 1996
Date of Patent: April 28, 1998
Assignee: The Reagents of the University of California
Inventors: Michael H. Nantz, Michael J. Bennett, Robert W. Malone

Induction of a protective immune response in a mammal by injecting a DNA sequence

Patent number: 5589466
Abstract: A method for delivering an isolated polynucleotide such as DNA or RNA, to the interior of a cell in a mammal comprising the injection of an isolated polynucleotide into a muscle of the mammal where the polynucleotide is taken up by the cells of the muscle and exerts a therapeutic effect on the mammal. The method can be used to deliver a therapeutic polypeptide to the cells of the mammal, to provide an immune response upon in vivo translation of the polynucleotide, to deliver antisense polynucleotides, to deliver receptors to the cells of the mammal or to provide transitory gene therapy.
Type: Grant
Filed: January 26, 1995
Date of Patent: December 31, 1996
Assignees: Vical Incorporated, Wisconsin Alumni Research Foundation
Inventors: Philip L. Felgner, Jon A. Wolff, Gary H. Rhodes, Robert W. Malone, Dennis A. Carson

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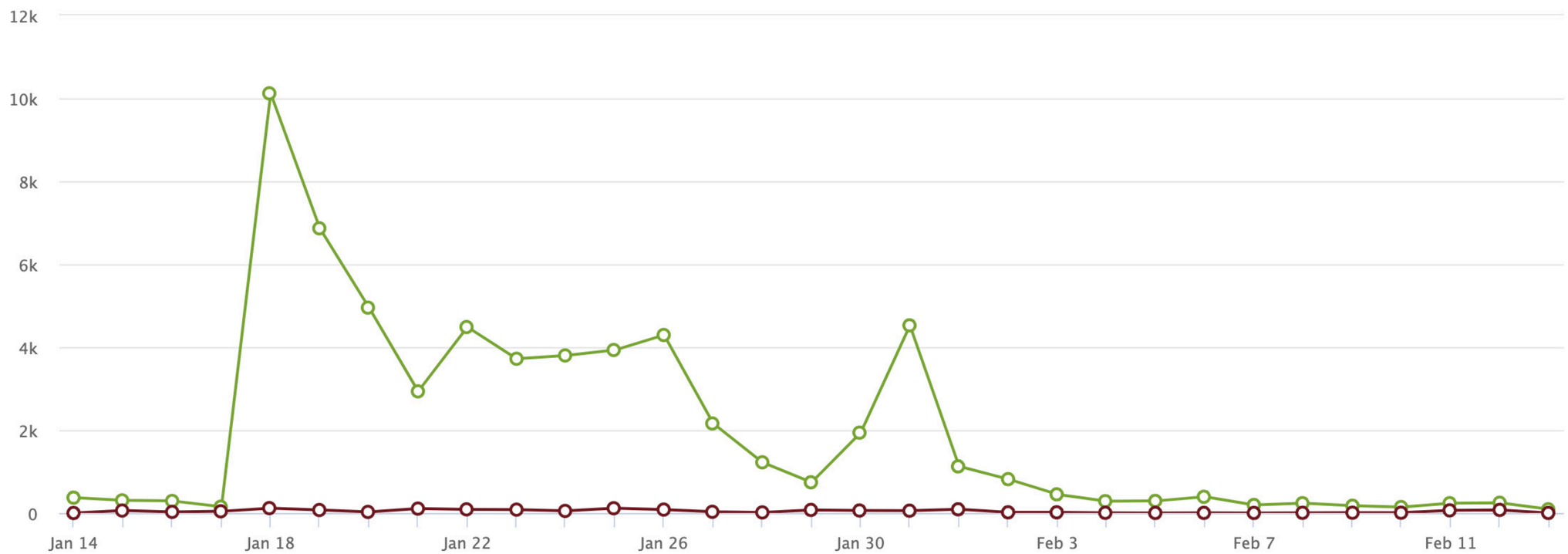

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PFIZER ADVERSE EVENTS BNT162b2, 2021

A list of Pfizers 100s and 100s of adverse events of concern submitted to the FDA for EUA approval.

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